

Remarks

This paper is responsive to the Office Action dated August 29th, 2008. All rejections and objections of the Examiner are traversed. Reconsideration of pending claims is respectfully requested.

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Claims 1-39 are pending in this application.

Claim 20 and claims 27-30 have been canceled without prejudice.

Claims 1-5, 15-19, 21-26, 31-33, and 35-37 have been amended to improve clarity.

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Claim 39 adds an additional feature from paragraphs [0070] to [0077] and [0086] to [0139] and Figures 2, 5-7, and 8-14 in the specification.

Priority

Regarding section 2 of the office action, the Applicant acknowledges that the original Oath has the foreign priority section blank. However, the Applicant submitted DECLARATION (completed SB02 form) for claiming the priority on January 27, 2004 and the document is in the NPL dated: 02-03-2004 on the Image File Wrapper of the present application. The DECLARATION (completed SB02 form) identified the priority document (Canadian application number 2,440,173) and filing date (September 4th, 2003). The completed SB02 form is on page 13 of the NPL dated: 02-03-2004 and a certified copy of the priority document is on pages 14-73 of the NPL dated: 02-03-2004 both on the Image File Wrapper of the present application.

The United States patent laws, 35 U.S.C. 119 (a) and (b) states: "An application for a patent filed in the United States by any person who has previously regularly filed an application for a patent for the same invention in a foreign country which affords similar privileges to citizens of the United States shall have the same effect as the same application would have if filed in the United States on the date on which the application for a patent for the same invention was first filed in such foreign country. This is the case, provided the application in the United States is filed within 12 months from the earliest date on which any such foreign application was filed and claims priority under 35 U.S.C. 119(b) to the foreign application. Submitting a

certified copy of the foreign application and the date of filing of the foreign application are required to secure this right of priority.”

For the present application (filed on **September 24th, 2003**), the request for claiming the priority was filed and documented in the NPL dated February 3rd, 2004,
5 approximately 5 months from the filing date of the priority application number 2,440,173 which was filed in Canada on **September 4th, 2003**.

On April 20th, 2005, following the publication of the present application (US 2005/0065805), the Applicant contacted Examiner Dean Nguyen (the Examiner on record at the time) because the claiming of priority was not included in the
10 document published on the USPTO website. Examiner Dean Nguyen requested from the Applicant to fax the information again to his fax number at 571-273-6806 and the general fax at 703-872-9306. This fax (5 pages) is in the NPL dated: 04-20-2005 on the Image File Wrapper of the present application. The 5 pages fax shows the covering letter, dated January 27, 2004, for submitting IDS and for claiming the
15 priority benefits; the DECLARATION (completed SB02 form) for claiming the priority of Canadian application number 2,440,173, filed on Sept. 4, 2003; a copy of the 1st page of the priority document (since the priority document is already in the NPL dated 02-03-2004 on the Image File Wrapper); and completed SB08 form for the IDS. The 5 pages fax also shows the **USPTO date stamp** on the original submission
20 dated February 3rd, 2004. Examiner Dean Nguyen acknowledges receipt of the fax and the Applicant considered the issue is closed.

Accordingly, the DECLARATION (completed SB02 form) for claiming the priority and the priority document are both in the NPL dated 02-03-2004 on the Image File Wrapper of the present application. This means that, the request for claiming the
25 priority was made approximately 5 months from the filing date of the priority document in Canada, that is less than 12 months from the filing date of the foreign application – the Canadian application was filed on September 4th, 2003.

Accordingly, Applicant respectfully requests acknowledgment of the claim for priority under 35 U.S.C. § 119.

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Specifications

With regard to Section 4 of the Action, paragraphs [0023] to [0029] have been deleted without prejudice to comply with 37 CFR 1.125(b) and (c) and overcome the Examiner's objection.

5 Paragraphs [0009] to [0022], [0030]-[0035], and [0036] to [0037] are amended to improve clarity. A new paragraph [0035.1] is added to clarify a feature of the present invention.

Paragraphs [0060] to [0069], [0087], [0094], [0097], [0151], [0168], [0169], and [0172] are amended to correct typographical errors; and the ABSTRACT
10 is amended for clarifying the nature and gist of the present invention.

Claim Objections under 35 U.S.C 132(a)

With regard to section 7 of the Action, claims 4 and 32 have been amended
15 to comply with 35 U.S.C. 132(a) by removing "the CAPEX as percentage of the revenue; the D/A as percentage of the revenue; the SG&A as percentage of the revenue".

Claim 27 has been canceled without prejudice.

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Applicant Arguments with regard to the rejection under 35 USC §101

With regard to section 9 of the Action, claims 1-38 were rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Regarding Claims 1-19:

Claim 1 as amended provides an operations, management, capacity, and services (OMCS) tool for assessing business solutions comprising alternative network architectures and management processes for a telecommunications network, paragraphs [0060] to [0069] and Figure 1 of the present invention.

30 The OMCS tool comprises means for inputting data and options for plurality of network architectures, network management processes, and service and customer management processes by an analyst; and means for engineering and costing

the plurality of network architectures, the network management processes, and the service and customer management processes. The network management processes and the service and customer management processes create and establish management networks that are required for operating and managing the plurality of network architectures for the business solutions.

The tool further comprises means for validating and calibrating the input data and options and the costs for the plurality of network architectures and the network, service, and customer management processes for the business solutions. The tool comprises means for determining, based on the costs of the plurality of network architectures and the network, service, and customer management processes, business parameters for the business solutions; and means for storing or displaying the business parameters for the business solutions for the telecommunications network.

Accordingly, the subject matter of the present invention discloses a tool for assessing business solutions comprising **two levels of networks**: (1) a network architecture that carries the telecommunications services (e.g., voice, data, etc.) and delivers the services to the end users; and (2) a management network for managing the network architecture wherein the management network comprises management processes and sub-processes for network, service, and customer management. The network, service, and customer management processes and sub-processes are modeled and engineered based on the Service Provider operating environment, paragraphs [0101] to [0138] and Figures 8 to 14 of the present invention.

The characteristics distinguishing the OMCS tool from the prior art are:

(1) OMCS tool enables an analyst (or a user) to input data and options for plurality of network architectures, network management processes, and service and customer management processes for business solutions for a telecommunications network. The **options** comprise technology alternatives for the network architectures and choices for the network, service, and customer management networks for managing the network architectures for the business solutions. The management networks comprise the network management processes and the service and customer management processes and their associated sub-processes that replicate today's operations and management networks for Service Providers.

(2) OMCS tool comprises means for engineering network management processes; and service and customer management processes; and means for determining a management processes cost which comprises a network management processes cost and a service and customer management processes cost for the business solution. Hence, the operations costs for business solutions having mesh network architecture (e.g., Figure 3 of the present invention) or ring network architecture (e.g., Figure 4 of the present invention) would depend on the cost of the management processes engineered for managing the mesh or ring network architecture. Accordingly, the analyst, and the Service Provider, would be able to compare technology alternatives for the network architectures and management strategies for the business solutions. Moreover, the analyst would be able to quantify the savings of one business solution versus another and identify the areas for cost reduction.

Additionally, by comparing the business solutions, the analyst would be able to determine the business solution for optimizing the operations and management for a selected network architectural technology for the telecommunications network.

Claim 1 as amended defines a tool a statutory subject matter under 35 U.S.C. 101.

Claims 2-19 are dependent claims and each dependent claim has all the limitations of the parent amended claim 1 and intervening dependent claims.

Regarding Claims 20-30:

Independent claim 20 and dependent claims 27 – 30 have been canceled without prejudice.

Claims 21-26 have been amended by introducing additional limitations to better define the invention and to clearly differentiate the present invention from the cited prior art references.

Claims 21-26 are dependent claims and each dependent claim has all the limitations of the parent amended claim 1 and intervening dependent claims.

Regarding Claims 31-38:

Claim 31 as amended provides a method for assessing business solutions comprising alternative network architectures and management processes for a telecommunications network.

5 The method comprises the steps of inputting data and options for plurality of network architectures and network, service, and customer management processes by an analyst; and engineering the plurality of network architectures and the network, service, and customer management processes based on the input data and options.

10 The method further comprises the steps of determining suppliers' equipment and network, service, and customer management processes costs. The network, service, and customer management processes and their associated sub-processes are detailed in paragraphs [0101] to [0138] and shown in Figures 8 to 14 of the present invention.

15 The method comprises the steps of determining, based on the costs of the plurality of network architectures and the network, service, and customer management processes, business parameters for the business solutions; and storing or displaying the business parameters for the business solutions for the telecommunications network, paragraphs [0144] to [0151] and Figure 17 of the present invention.

20 The amended claim 31 defines a process that is employed by the tool of the amended claim 1 and the steps in the process of the amended claim 31 are analogous to the means functions in the tool of the amended claim 1. The process or the method of the amended claim 31 is tied to the tool of the amended claim 1 and hence, the method of the amended claim 31 is a statutory subject matter under 35 U.S.C. 101.

25 Claims 32-38 are dependent claims and each dependent claim has all the limitations of the parent amended claim 31 and intervening dependent claims.

30 It is respectfully submitted that the non-statutory subject matter rejection of claims 1-19, 21-26, and 31-38 by the Examiner has been traversed. Accordingly, it is respectfully requested that the rejected under 35 U.S.C. 101 be withdrawn.

Rejection under 35 U.S.C. §103

Claims 1-10 and 15-38:

With regard to section 10 of the Action, claims 1-10 and 15-38 were
5 rejected under 35 U.S.C. 103 (a) as being unpatentable over Ngi et al., U.S. Patent
Application Publication Number 2003/0158765 A1 (hereinafter referred to as Ngi) in
view of EURESCOM Project P901-PF Extended investment analysis of
telecommunication operator strategies (hereinafter referred to as EURESCOM):

Deliverable 1: Investment analysis framework definition and requirements
10 specification (hereinafter referred to as D1).

Deliverable 2: Investment Analysis Modeling (hereinafter referred to as D2).

Ngi

Ngi teaches an end-to-end network analysis tool that allows a network
15 consultant to integrate link budget planning calculations with the network planning
and business modeling phases of customer proposal generation. This integration
provides for significantly reduced calculation times, more accurate business
proposals, and the ability to model many different network scenarios. The benefits,
savings, reduction in operational and capital costs and all the other elements of
20 network savings relating to business parameters that are discovered may be
summarized qualitatively and quantitatively in reports that may be presented to a
customer company's senior management, in detailed or summary formats. This allows
a network consultant to assist customers in migrating to a more profitable, efficient,
effective, and end-user driven network, while providing a customer with proof in the
25 strength of their proposed solution and ability to deliver a low cost solution that
maximizes the customer's return on investment, (Abstract, Ngi).

EURESCOM:

The EURESCOM project P901 main contribution is the *specification of*
30 *recommended methodologies and models to be used in investment analysis of*
telecommunication operator strategies. The specification is based on a survey and
assessment of relevant approaches and methodologies for the assessment of the

economics of telecommunication operator investment projects, as described in D1, Volume 2, "Investment analysis framework definition and requirements specification"

The EURESCOM Project P901 provides framework and guidelines for high level executive investment analysis modeling for investment, operation,

5 administration, and maintenance cost (D2, Volume 1 and Volume 2). The high level nature of the information necessitated the EURESCOM and PARTICIPANTS disclaimer (D2, Volume 1, page 2, paragraph 5) which states that:

"Neither the PARTICIPANTS nor EURESCOM warrant that the information contained in the report is capable of use, nor that use of the information is
10 free from risk, and accepts no liability for loss or damage suffered by any person using this information."

Accordingly, a skilled person in the art reading EURESCOM Project P901 would not be able to use the information of the project and re-produce the results of the project due to lack of details in the specification of various methodologies and
15 models.

It should be noted that, for patents, the United States patent laws, 35 U.S.C. 112 states that "The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains,
20 or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his/her invention."

The various methodologies, models, framework, and guidelines in the EURESCOM project P901 are based on the Telecom Operations Map, which uses the ITU-T (International Telecommunication Union - Telecommunication Standardization
25 Sector) TMN (Telecommunications Management Network) model to organize core business processes.

EURESCOM at (D2, Volume 2: Sections 3.2.4 and 3.3 Tables 5, 6, and 7) illustrates 5 telecommunication layers of the Telecom Operations Map, which uses the ITU-T TMN model to organize core business processes. Table 5 identifies selected
30 sources of running cost for the investment project which includes OA&M,

provisioning, Churn, decommissioning, and leased facilities at each layer of the 5 telecommunication layers. Examples of business investments and OA&M processes at each layer of the 5 telecommunication layers are shown in Tables 6 and 7, respectively.

5 Regarding the information in Tables 5, 6, and 7, EURESCOM at (D2, Volume 2: page 33, Section 3.3, paragraph 6) states that “Table guideline: The reader should notice that not all the processes are relevant for a specific investment project. For instance a network investment project would not consider the services processes or takes just the most important ones. In opposite, a pure service investment project
10 would avoid including the network and infrastructure processes. In addition, all the process related to leased facilities or leased equipment should be ignored by the investment process.”

 EURESCOM at (D2, Volume 2: pages 32-33, paragraph 3) states that project P901 **does not** cover all the businesses of a telecommunication company (or a
15 Service Provider). Therefore, several cost categories are not considered as a part of running or OA&M costs and are not described in the EURESCOM (D1 Volume 2 and D2 Volume 1 and Volume 2) reference. The business of managing the network (e.g., network planning and development), managing the services (e.g., service planning and development), and managing the customers (e.g., a trouble ticketing, a service
20 assurance, performance monitoring, and reporting) are excluded from the investment, operation, administration, and maintenance cost modeling and analysis for telecommunication operator strategies.

 Accordingly, the methodologies, models, framework, and guidelines taught by EURESCOM exclude several critical elements of the businesses of the
25 Telecommunication Company (or Service Provider).

 In particular, the methodologies and models taught by EURESCOM exclude the engineering and costing of managing and operating the network architecture and technology, that is, the engineering and costing of network, service, and customer management processes and sub-processes that are required for
30 managing the network architecture and technology. The methodologies and models taught by EURESCOM include selected attributes that are relevant to the costs of the

network architecture and technology and would not enable the telecommunication company (or Service Provider) to quantify the management and operating costs of the new network architectural technology and identify the areas for enhancing or reducing the management and operating cost of the network architecture and technology which
5 are critical to the survival of any telecommunication company (or Service Provider).

Accordingly, EURESCOM **does not** disclose means for selecting, engineering, and costing of network, service, and customer management processes and sub-processes for managing the network architecture and technology because they are not relevant to the investment analysis of telecommunication operator strategies
10 (D2, Volume 2: pages 32-33, paragraph 3).

Claims 1 and 31:

Independent claims 1 and 31 have been amended to better define the invention and to clearly differentiate the present invention from the cited prior art
15 references.

The OMCS tool comprises means for inputting data and options for plurality of network architectures, network management processes, and service and customer management processes by an analyst; and means for engineering and costing the plurality of network architectures, the network management processes, and the
20 service and customer management processes. The network management processes and the service and customer management processes create and establish management networks that are required for operating and managing the plurality of network architectures for the business solutions.

The OMCS tool further comprises means for validating and calibrating the input data and options and the costs for the plurality of network architectures and the network, service, and customer management processes for the business solutions. The tool comprises means for determining, based on the costs of the plurality of network architectures and the network, service, and customer management processes, business parameters for the business solutions; and means for storing or displaying the
25 business parameters for the business solutions for the telecommunications network.
30

The characteristics distinguishing the OMCS tool of the present invention from prior art comprise:

(1) means for selecting, engineering, and costing network management processes and service and customer management processes and sub-processes for managing plurality of network architectures having various technologies (paragraphs [0134]-[0135], Figure 14, Tables 1410-1420; and paragraph [0140], Figure 15, Table 1510 of the present invention);

(2) means for determining a network management processes cost which comprises a process cost for each network element in the network architecture, wherein the process cost for each network element in the network architecture is determined based on whether the operations of the network management processes and sub-processes is performed manually, using mechanized systems (or operations support systems (OSS)) or both based on the Service Provider operating environment (paragraph [0136], Figure 14, Table 1430 of the present invention);

(3) means for determining a service and customer management processes cost which comprises a process cost for each link in the network architecture, wherein the process cost for each link in the network architecture is determined based on whether the operations of the service and customer management processes and sub-processes is performed manually, using mechanized systems (or operations support systems (OSS)) or both based on the Service Provider operating environment (paragraphs [0101]-[0132], Figures 8-13, Tables 800-1300 of the present invention);

(4) means for determining a management processes cost comprises a network management processes cost and a service and customer management processes cost; means for determining OPEX, wherein the OPEX comprises a management processes cost, a leasing cost, and sales, general and administration (SG&A) expenses; means for determining CAPEX, wherein the CAPEX comprises a network architecture cost, taxes, interests and depreciation and amortization (D/A) expenses; and other financial statistics; and

(5) means for validating and calibrating the data and options and the costs for the plurality of network architectures, the network management processes, and the service and customer management processes.

Accordingly, the present invention provides a tool and method for assessing business solutions comprising **two levels of networks**: (i) a network architecture that

carries the telecommunications services (e.g., voice, data, etc.) and delivers the services to the end users; and (ii) a management network for managing the network architecture wherein the management network comprises network, service, and customer management processes and sub-processes. The network, service, and customer management processes replicate today's operations and management networks for the Service Providers (or the telecommunications company).

Advantageously, the cost for managing and operating the network architecture is integrated with the cost of the network architecture in the total cost of the business solution.

Appreciably, the Service Provider (or the telecommunication company) would be able to identify the areas for enhancing or reducing the management and operating cost of the telecommunications network. Reducing the management and operating cost of a telecommunications network is critical to the survival of the Service Provider (or the telecommunications company).

Applicant Arguments with regard to the rejection under 35 USC §103

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

1. No motivation for the modification suggested by the Examiner:

a. No motivation to combine Ngi and EURESCOM:

On pages 5 and 6 of the office action, the Examiner states:

“Regarding Claims 1, 20, and 31 Ngi teaches a tool, computer readable medium, and computer implemented method, respectively, comprising: (a) means for inputting data and options for plurality of network architectures and management

processes by an analyst ([0015], [0031]-[0033], [0097]); (b) means for engineering the plurality of network architectures based on the data and options of (a) ([0055]); (g) means for determining, based on the costs of the plurality of network architectures and the management processes, business parameters for the business solutions ([0015],
5 [0031]-[0033], [0097]); and (h) means for storing or displaying the business parameters for the business solutions for the telecommunications network ([0015]).

Ngi **does not** explicitly disclose items (c)-(f), however, EURESCOM does disclose (c) means for determining suppliers' equipment costs for said plurality of network architectures (D1, Volume 2: page 49, paragraph 5; page 50, paragraph 5;
10 page 86, paragraph 7); (e) means for determining suppliers' management processes costs for the network management processes and the service and customer management processes (D2, Volume 1: page 11, Table 1); (f) means for validating and calibrating the data and options and the costs for the plurality of network architectures and the management processes (D1, Volume 2: page 28, paragraph 1;
15 page 5, paragraph 1; D2, Volume 2: pages 30-31, Section 3.2.2; pages 34-35, Section 3.4). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Ngi's invention to include all costs in order to enable a comprehensive business decision."

20 "EURESCOM further discloses (d) means for engineering the management processes based on the data and options of (a), wherein the management processes comprising network management processes and service and customer management processes for managing said plurality of network architectures (D2, Volume 1: page 11, Table 1). It would have been obvious to one of ordinary skill in the art at the time
25 of the invention to modify Ngi's invention to include the management processes of both the network and the servicing customers in order to enable a comprehensive business decision."

"There are three possible sources for a motivation to combine references:
30 **the nature of the problem to be solved**, the teachings of the prior art, and the knowledge of persons of ordinary skill in the art." *In re Rouffet*, 149 F.3d 1350, 1357, 47 USPQ2d 1453, 1457-58 (Fed. Cir. 1998)."

The test for obviousness is what the combined teachings of the references would have suggested to one of ordinary skill in the art, and **all teachings in the prior art must be considered to the extent that they are in analogous arts...** *In re Young*, 927 F.2d 588, 18 USPQ2d 1089 (Fed. Cir. 1991). In particular, a prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984).

Ngi (paragraph [0015]) states:

“According to an aspect of the invention, there is provided a computer-implemented method for performing integrated optical network planning and business modeling, comprising the steps of: a) obtaining a network configuration based on customer parameters; b) performing link budget calculations based on said network configuration and customer parameters; c) generating an equipment list based on said link budget calculations; d) calculating, based on said equipment list, at least one business parameter associated with implementation of said network configuration; and e) storing or displaying data associated with such business parameter.”

Ngi (paragraph [0031]) states:

“The present invention advantageously provides an end-to-end analysis tool that allows a network consultant to create custom specific models for each customer. Advantageously, in an embodiment of the present invention, the present invention comprises an interactive computer-implemented program that starts from the network planning phase all the way through to the end-application revenue enhancement phase. As such, embodiments of the present invention assist a customer in migrating to a more profitable, efficient, effective, and end-user driven network.”

Ngi (paragraph [0032]) states:

“In contrast to proposals generated by conventional processes and means, embodiments of the present invention allow a network consultant to provide a customer with proof in the strength of their evaluations, models, and/or product offerings and deliver a low cost solution that maximizes the customer's return on investment. This is advantageously provided by the fact that embodiments of the present invention permit a network consultant to accurately model existing customer

networks, and also to compare such existing networks to competitors' networks and to proposed networks."

Ngi (paragraph [0033]) states:

5 "The benefits, savings, reduction in operational and capital costs and all the other elements of network savings that are preferably discovered according to embodiments of the present invention are advantageously summarized in qualitative and quantitative fashion in reports that may be presented to a customer company's senior management. An Executive Summary may be provided for all areas of a network analysis. For example, an Executive Summary may be presented for Network
10 Architecture Costs, Cost to Build, Risk Analysis, Cost/Benefit Analysis and many other areas. Additionally, a detailed analysis and set of recommendations may be provided based on the calculated business parameters to help a customer understand all the advantages that the network consultant's solution brings to the customer."

Ngi (paragraph [0097]) states:

15 "In accordance with the description above, embodiments of the present invention will enable a customer to properly understand business parameters such as the operational and capital costs associated with network modeling exercises. Modeling a customer network according to the generic network model described above allows a network consultant to analyze opportunities to increase untapped
20 revenue streams, investigate areas of previously unrealized savings and bring to light areas of reduced operational and capital expenditures in a customer's network. Advantages related to a network consultant's solution might become quite evident when the network results are modeled and the business parameters related thereto are then compared to any competitive or existing solution."

25

To sum up, Ngi teaches network planning based on customer (or Service Provider) demand using generic network model to demonstrate the benefits of one network architecture or topology versus other network architecture or topology, (paragraphs [0031] and [0032] of Ngi). The network architecture or topology includes
30 an identification of nodes and physical links in the topology. The network architecture is determined based on equipment list costs as produced by the link budget (paragraphs [0007], [0015], [0016], [0018], [0021], [0022], and [0023] of Ngi).

Accordingly, the main focus of the tool taught by Ngi is **only** on offering new products to the customers (or Service Providers) and comparing the costs of the new products to the existing products in a network architecture or topology.

Further, the tool taught by Ngi teaches business solutions for network
5 architecture or topology, wherein the capital expenditure (CAPEX) is described as architecture costs, costs to build, own and grow; and the operational expenditure (OPEX) is described as architecture costs, costs to build, own and grow, (paragraphs [0033] and [0097] and Table 2 of Ngi). Accordingly, *the costs for managing and operating the network architecture or topology are excluded from the analysis and the*
10 *customer (or Service Provider) would not be able to identify the areas for enhancing or reducing the management and operating costs of the network.* Reducing the operating cost of a network is critical to the survival of any Service Provider because, for example, managing and operating of a fully mesh network topology is more expensive than managing and operating of a ring network topology.

15 The tool taught by Ngi would not enable the customer (or Service Provider) to assess and quantify the difference between operating and managing of one network topology and another. Understanding the cost of the new network architecture or topology without understanding the cost of the management and operations of the new network architecture or topology is economically critical to evolving the services and
20 business for the customer (or Service Provider).

Accordingly, Ngi **does not** disclose several elements of the claimed invention.

The Examiner states that Ngi **does not** teach elements (c), (d), (e), and (f) of the claimed invention.

25 In particular, Ngi **does not** disclose element (c) means for determining suppliers' equipment costs for said plurality of network architectures; element (d) means for engineering the network management processes and the service and customer management processes for managing said plurality of network architectures; element (e) means for determining suppliers' management processes costs for the
30 network management processes and the service and customer management processes; and element (f) means for validating and calibrating the data and options and the

costs for the plurality of network architectures, network management processes, and the service and customer management processes.

Please note that elements (c), (d), (e), and (f) of independent claim 1 correspond to elements (u), (v), (w), and (y) of independent claim 31, respectively. Therefore, the remarks/arguments in this paper are applicable to both elements (c), (d), (e), and (f) of independent claim 1 and elements (u), (v), (w), and (y) of independent claim 31. The elements (c), (d), (e), and (f) are used in the following discussion.

Independent claim 20 has been canceled without prejudice.

Regarding element (c) means for determining suppliers' equipment costs for said plurality of network architectures:

EURESCOM at (D1, Volume 2: page 5, paragraph 1; page 14, paragraph 3 and D2, Volume 2: page 2, paragraph 1) teaches, in the cost model, the cost evolution of network components is described as a function of time and the network architecture cost is described as a time series of cost evolution and volume of each network element. When building new network architecture or upgrading an existing one, an operator has a set of technologies to choose, (D2, Volume 2: page 3, paragraph 2).

The network architecture scenario is defined in a shopping list, which indicates how the network is rolled out during the study period. The shopping list defines the amount of equipment and services needed in the network as a function of time, (D1, Volume 2: page 74, paragraph 5). This is similar to Ngi (paragraphs [0007], [0015], [0016], [0018], [0021], [0022], and [0023]) where the network architecture is determined based on equipment list costs as produced by the link budget.

EURESCOM does disclose at (D1, Volume 2: page 49, paragraph 5; page 50, paragraph 5; page 86, paragraph 7) high level guidelines and requirements for calculating the cost of a network architecture. The methodology and model taught by EURESCOM identifies a proprietary tool (that is, the INVAN (INvestment ANalysis of general telecommunication network) tool) as the tool to be used for calculating the

cost of the network architecture. There is no mention or suggestion of alternatives to the INVAN tool for calculating the cost of the network architecture.

In contrast, element (c) means for determining suppliers' equipment costs for said plurality of network architectures, clearly identifies the requirement for determining the cost of the network architecture in the plurality of network architectures under study. The cost of the network architecture is clearly identified as the sum of the costs of the elements in the network architecture (e.g., network elements, links, etc.). Hence, for a small size network, using a pen and paper, a network architecture cost and a leasing cost can easily be computed manually as per dependent claims 10-14 of the claimed invention.

Regarding element (e) means for determining suppliers' management processes costs for the network management processes and the service and customer management processes; and element (d) means for engineering the network management processes and the service and customer management processes for managing said plurality of network architectures;

EURESCOM at (D2, Volume 1: page 11, Table 1) discloses:

Telecommunication layer	OA&M	Provisioning	Churn	Decommis sioning	Leased facilities
Customer care management	*	*	*		
Service & Service management	*	*	*		*
Network and system management	*	*	*	*	*
Network elements & system elements	*	*	*	*	*
Physical network and infrastructure (cables, ducts, cabinets, buildings)	*	*		*	*

Table 1 Identification of sources of running costs

Table 1 of EURESCOM illustrates 5 telecommunication layers of the Telecom Operations Map of the ITU-T TMN model and selected attributes (OA&M, provisioning, churn, decommissioning, and leased facilities) from which the running

costs for the methodologies and models in the project are originated. The focus, in these methodologies and models, is on the OA&M, provisioning, churn, decommissioning, and leased facilities which represent limited attributes of the businesses of a telecommunication company or Service Provider.

5 EURESCOM at (D2, Volume 1: page 11, Table 1) teaches selected attributes from the Telecom Operations Map of the ITU-T TMN model which comprise OA&M, provisioning, churn, decommissioning, and leased facilities. These selected attributes are relevant to the cost of the network architecture and technology (e.g., cost to build, own, and grow) and do not cover the engineering and costing of
10 the network, service, and customer management processes for managing the network architecture and technology for the Telecommunication Company or Service Provider.

The OA&M costs are divided into maintenance and O&A (operations and administration), wherein the maintenance comprises the cost of repair parts and the cost of repair work as function of the cost of labor, MTBR (mean time between
15 repairs), and MTTR (mean time to repair). The operation & administration costs are included manually and typically driven by services in terms of the number of customers or the number of critical network elements, (D2, Volume 2: pages 36-42, Sections 3.5-3.7; pages 42-54, Section 4). The CAPEX and the OPEX are described as time series (D1, Volume 2: page 39, paragraph 3 and D2, volume 2: pages 36-42,
20 Sections 3.5-3.7; pages 42-54, Section 4).

Further, the methodologies and models taught by EURESCOM Project P901 provide high level executive information and are based on various tools that were developed in previous studies for determining costs to build, own and grow a network architecture and technology. For example, the OA&M modeling is based on
25 the use of a proprietary tool (that is, OPTIMUM / TERA tool) from previous studies. Hence, a skilled person in the art reading the OA&M methodologies and modeling taught by EURESCOM Project P901 (D2, Volume 2: Sections 3 and 4, pages 30-54) would not be able to use the information of the project and re-produce the results of the project due to lack of details of the tools and the specification of various
30 methodologies and models.

As previously noted, the high level nature of the information necessitated the EURESCOM and PARTICIPANTS disclaimer (D2, Volume 1, page 2, paragraph 5) which states that: “Neither the PARTICIPANTS nor EURESCOM warrant that the information contained in the report is capable of use, nor that use of the information is free from risk, and accepts no liability for loss or damage suffered by any person using this information.”

EURESCOM clearly stated at (D2, Volume 2: pages 32-33, paragraph 3) that: “....These projects **do not** cover all the businesses of a telecommunication company. Therefore, several cost categories, listed below, are not considered as a part of running or OA&M costs and are not described with more details in this document:

- All planning processes (network planning and development, service planning and development).....”

Accordingly, the methodologies and models taught by EURESCOM exclude the costs of network planning and development, service planning and development, and other costs that are related to managing and operating the network, service, and customer of the network architecture that are critical to the businesses of a telecommunication company (or a Service provider).

In contrast, the present invention provides:

(1) means for selecting, engineering, and costing network management processes and service and customer management processes and sub-processes for managing plurality of network architectures having various technologies (paragraphs [0134]-[0135], Figure 14, Tables 1410-1420; and paragraph [0140], Figure 15, Table 1510 of the present invention);

(2) means for determining a network management processes cost which comprises costs of performing one or more of the following network management processes: installation, testing and repair, inside and outside maintenance, network engineering and provisioning and is measured as a process cost for each network element in the network architecture, wherein the process cost for each network element in the network architecture is determined based on whether the operations of

the network management processes and sub-processes is performed manually, using mechanized systems (or operations support systems (OSS)) or both based on the Service Provider operating environment (paragraph [0136], Figure 14, Table 1430 of the present invention);

5 (3) means for determining a service and customer management processes cost which comprises costs of performing one or more of the following service and customer management processes: performance management (PM), fault management (FM), Service activation and provisioning (SAP), network inventory management (NIM), work order management (WOM), and customer relationship management
10 (CRM) and is measured as a process cost for each link in the network architecture, wherein the process cost for each link in the network architecture is determined based on whether the operations of the service and customer management processes and sub-processes is performed manually, using mechanized systems (or operations support systems (OSS)) or both based on the Service Provider operating environment
15 (paragraphs [0101]-[0132], Figures 8-13, Tables 800-1300 of the present invention); and

(4) means for determining a management processes cost comprises a network management processes cost and a service and customer management processes cost; means for determining OPEX, wherein the OPEX comprises a management processes
20 cost, a leasing cost, and sales, general and administration (SG&A) expenses; means for determining CAPEX, wherein the CAPEX comprises a network architecture cost, taxes, interests and depreciation and amortization (D/A) expenses; and other financial statistics.

In the methodologies and models taught by EURESCOM, there is no
25 mention or suggestion of element (d) means for engineering the network management processes and the service and customer management processes for managing said plurality of network architectures; and element (e) means for determining suppliers' management processes costs for the network management processes and the service and customer management processes, as claimed in the present invention.

Accordingly, EURESCOM **does not** disclose elements (e) and (d) as claimed in the present invention. Hence, there is no motivation to combine Ng and EURESCOM references.

5

Regarding element (f) means for validating and calibrating the data and options and the costs for the plurality of network architectures, the network management processes, and the service and customer management processes:

10

EURESCOM at (D1, Volume 2: page 28, paragraph 1) discloses: “EURESCOM P919 “Evaluation of Integrated Fixed and Mobile Networks” is a relevant collaboration project for the assessments in Task 4 of P901 dealing with Fixed-Mobile Convergence. The main objectives of P919 which are of relevance to P901 are:

15

- Identify converged services (not already covered by P809)
- Identify the infrastructure requirements for converged services
- Identify the commonalities of various fixed and mobile networks
- Propose potential architectures and topologies for integrated networks
- Devise a framework to assess each architecture and topology in terms of desirability from the network operator perspective
- Identify the preferred architecture(s) and topologies from the network operator perspective
- Propose an evolution path towards the identified architectures and topologies”

20

25

EURESCOM at (D1, Volume 2: page 5, paragraph 1) discloses: “In the following, we will use the term “module” for a group of generic models that cover a specific area for example cost methodologies. At this stage we will not discuss the granularity of these models, nor the ways of implementation (Excel, high level language etc.); this work will be performed later on in the project. As an example, the costing module contains all the costing models are gathered in a well-structured way. As can be seen in Figure 5, each module will most often have inputs and outputs. The inputs to the cost, market, and risk models are defined by the scenarios. Even though the investment projects under study and their respective scenarios may be very significant, the following model elements must be presented in a general way:

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- Services. Penetration, number of customers and tariffs are presented **as time series**.

- Network architecture. Cost evolution and volume of each network element (**time series**)
- Market segments. Number of customers in each market segment as a function of time (for each service). A moderate number of segments is recommended.
- 5 • Usage of services. For each market segment, the usage for each service is most often modeled as busy hour traffic in Mb per day/month (data) or minutes per day/month (voice)
- 10 • Area types. Different areas are described by the same attributes: Customer density, customer mix, average loop lengths, duct availability, surface conditions (necessary for civil works cost estimates) and housing (single house dwellings or apartments).”

EURESCOM at (D2, Volume 2: pages 30-31, Section 3.2.2) discloses framework for determining leased facilities costs and specified the parameters that may be used in determining the leased facilities costs.

- 15 Moreover, EURESCOM at (D2, Volume 2: pages 34-35, Section 3.4) discloses cost factors or drivers for the OA&M cost. Section 3.4 presents few examples of OA&M processes, the cost factors, and the driving parameters. It does not include an exhaustive description of all processes, factors and parameters. The intention is to provide a common framework for cost modeling. In tables 2, 3, and 4
- 20 cost factors and driving parameters of a few operational, administrative, and maintenance processes are presented, respectively.

- 25 There is no mention or suggestion of means for validating and calibrating data, options, and costs for plurality of network architectures; network management processes; and service and customer management processes and sub-processes in the methodologies, models, framework, guidelines, and requirements taught by EURESCOM P901 project in D1, Volume 2; D2, Volume 1; and D2, Volume 2.

- Accordingly, EURESCOM **does not** disclose element (f) as claimed in the present invention. Hence, there is no motivation to combine Ngi and EURESCOM references.

30

It is clear that there is no motivation to combine Ngi with EURESCOM and the combined references **DO NOT** teach the claimed limitations of the OMCS tool, as discussed above.

In particular, the combined references **DO NOT** teach elements (d), (e), and (f) as claimed in the present invention.

The combined references **DO NOT** teach element (d) means for engineering the network management processes and the service and customer management processes for managing said plurality of network architectures; element (e) means for determining suppliers' management processes costs for the network management processes and the service and customer management processes; and element (f) means for validating and calibrating the data and options and the costs for said plurality of network architectures, the network management processes, and the service and customer management processes, as claimed in the present invention.

Accordingly, for at least the reason that there is no motivation to combine the teachings of EURESCOM and Ngi and a combination of the teachings of EURESCOM and Ngi references, if at all feasible, **does not** produce the limitations of independent claims 1 and 31, it is respectfully requested that the rejection of claims 1 and 31 be withdrawn.

2. Combination neither describes nor suggests every limitation in the claims

In order to support a rejection under 35 U.S.C. §103, the combination of references should show or suggest *every* limitation in the claim.

The combination of Ngi and EURESCOM **fails to** satisfy this burden for several reasons, as will be described below.

a. The combination of Ngi and EURESCOM neither describes nor suggests a tool which comprises “means for engineering network management processes and service and customer management processes for managing plurality of network architectures; means for determining suppliers’ management processes costs for the network management processes and the service and customer management processes; and means for validating and calibrating the data and options and the costs for the plurality of network architectures, the network management processes, and the service and customer management processes”:

The Examiner states that Ngi **does not** teach elements (c)-(f) of the present invention.

As discussed above, EURESCOM teaches a framework and guidelines for methodologies and models for determining cost of network architectures using a proprietary tool, that is, the INVAN tool (D1, Volume 2: page 86, paragraph 7).

The Examiner relies on EURESCOM at (D2, Volume 1: page 11, Table 1) as teaching elements (e) and (d) of the present invention, wherein element (e) means for determining suppliers' management processes costs for the network management processes and the service and customer management processes; and element (d) means for engineering the network management processes and the service and customer management processes for managing said plurality of network architectures.

However, Table 1 must be read in accordance with the specification of EURESCOM. The specification clearly shows that Table 1 illustrates 5 Telecommunication layers of the Telecom Operations Map of the ITU-T TMN model and selected attributes (OA&M, provisioning, churn, decommissioning, and leased facilities) from which the running costs for the methodologies and models in the project are originated. Hence, the focus, in these methodologies and models, is on the OA&M, provisioning, churn, decommissioning, and leased facilities and not on managing the network, service and customer of the network architecture. These selected attributes are relevant to the cost of the network architecture and technology and do not cover the engineering and costing of the network, service, and customer management processes for managing the network architecture and technology for the Telecommunication Company or Service Provider.

There are no methodologies or models for determining the costs and engineering of the selected attributes in (D2, Volume 1: page 11, Table 1) of EURESCOM. The methodologies and models taught by EURESCOM are based on using proprietary tools such as INVAN, OPTIMUM/TERA and others.

EURESCOM clearly stated at (D2, Volume 2: pages 32-33, paragraph 3) that the P901 projects **do not** cover all the businesses of a telecommunication company and, therefore, several cost categories **are not** considered as a part of running or OA&M costs and **are not** described with more details in the document.

EURESCOM clearly stated at (D2, Volume 2: pages 32-33, paragraph 3) that all planning processes such as network planning and development, service planning and development **are not considered** as a part of running or OA&M costs and **are not described** with more details in the document.

5 Accordingly, the methodologies and models taught by EURESCOM exclude the costs of network planning and development, service planning and development, and all other costs that are related to managing and operating the network, service, and customer of the network architecture that are critical to the businesses of a telecommunication company (or a Service provider).

10 The methodologies and models taught by EURESCOM exclude the engineering and costing of the network, service, and customer management processes and sub-processes (paragraph [0136], Figure 14, Table 1430; paragraphs [0101]-[0132], Figures 8-13, Tables 800-1300 of the present invention) because the management of the network, service, and customer of the network architecture is not
15 relevant to the extended investment analysis of telecommunication operator strategies project.

 Accordingly, EURESCOM **does not** disclose elements (e) and (d) of the claimed invention.

 There is no mention or suggestion of means for determining management
20 processes costs for network management and service and customer management processes and sub-processes for managing the network architecture; and means for engineering the network management processes and the service and customer management processes for managing the network architectures. Further, there is no mention or suggestion of the sources of costs for the network, service, and customer
25 management processes and sub-processes as detailed in the present invention (paragraph [0136], Figure 14, Table 1430; paragraphs [0101]-[0132], Figures 8-13, Tables 800-1300 of the present invention).

 Accordingly, EURESCOM **does not** teach elements (d) and (e) of the claimed invention.

30 The combination of Ngi and EURESCOM **DOES NOT** teach element (d) means for engineering the network management processes and the service and

customer management processes for managing the plurality of network architectures; and element (e) means for determining suppliers' management processes costs for the network management processes and the service and customer management processes, as in the claimed invention.

5 Further, the Examiner relies on EURESCOM at (D1, Volume 2: page 28, paragraph 1; page 5, paragraph 1; D2, Volume 2: pages 30-31, Sections 3.2.2; pages 34-35, Section 3.4) as teaching element (f) of the present invention, wherein element (f) means for validating and calibrating the data and options and the costs for the plurality of network architectures, the network management processes, and the service
10 and customer management processes.

However, as shown above, the referenced sections (D1, Volume 2: page 28, paragraph 1; page 5, paragraph 1; D2, Volume 2: pages 30-31, Sections 3.2.2; pages 34-35, Section 3.4) of the specification **do not** teach validation and calibration of data, options, or costs of network architectures, network management processes, and
15 service and customer management processes. Further, in EURESCOM Project P901 (D1, Volume 2; D2, Volume 1; and D2, Volume 2) there is no mention or suggestion of means for validating and calibrating data, options, and costs for network architectures, network, service, and customer management processes and sub-processes.

20 Accordingly, EURESCOM **does not** disclose element (f) of the claimed invention.

EURESCOM **does not** teach elements (d), (e), and (f) of the claimed invention. In particular, EURESCOM **does not** teach element (d) means for
25 engineering the network management processes and the service and customer management processes for managing the plurality of network architectures; element (e) means for determining suppliers' management processes costs for the network management processes and the service and customer management processes; and element (f) means for validating and calibrating the data and options and the costs for
30 the plurality of network architectures, the network management processes, and the service and customer management processes, as claimed in the present invention.

The Examiner states that Ngi **does not** teach elements (c)-(f) of the present invention.

Accordingly, the combination of Ngi and EURESCOM **does not** teach elements (d), (e), and (f) of the present invention.

5 The EURESCOM reference **fails to** complement the Ngi reference to produce the present invention, as claimed in the present invention.

 Accordingly, for at least the reason that a combination of the teachings of EURESCOM and Ngi references, if at all feasible, **does not** produce the limitations of
10 independent claims 1 and 31, it is respectfully requested that the rejection of claims 1 and 31 be withdrawn.

Regarding Claims 2 and 21:

 On page 6 of the office action, the Examiner relies on EURESCOM at (D1,
15 Volume 2: page 10, paragraph 4; page 13, paragraph 3; page 14, paragraph 1; page 77, paragraph 1 and Figure 23) as teaching the limitations of claims 2 and 21.

 In order to support a rejection under 35 U.S.C. §103, the combination of references should show or suggest *every* limitation in the claim.

 EURESCOM at (D1, Volume 2: page 10, paragraph 4; page 13, paragraph
20 3; page 14, paragraph 1; page 77, paragraph 1 and Figure 23) discloses methodology, requirement, and framework definition for modules that are used in various tools in the project including tools for handling external data (e.g., traffic data); tools for receiving inputs (e.g., the number of customers); and tools for determining the
25 OA&M costs such as OPTIMUM/TERA that uses the labor cost as an input parameter as shown in Figure 23 of EURESCOM. The reference to the “traffic data”, “customers” and “labor cost” in various modules and tools in the project demonstrate the high level information of the investment, operation, administration, and maintenance cost modeling taught by EURESCOM (D1, Volume 2; D2, Volume 1; and D2, Volume 2).

30 As discussed above, the combination of Ngi and EURESCOM references **fails to** disclose several elements of independent claim 1. In particular, the

combination of Ngi and EURESCOM references **fails to** disclose elements (d), (e), and (f) of independent claim 1.

Claim 2 is a dependent claim and has all the limitations of the parent claim 1.

5 Claim 2 adds limitations "...means for inputting traffic data; customer data; and financial and labor data." to a base claim, independent claim 1, which is distinct from the prior art.

 Claim 21 is a dependent claim and has been amended by introducing additional limitations to better define the invention and to clearly differentiate the present invention from the cited prior art references. Claim 21 has all the limitations of the parent claim 1.

 Claim 21 adds limitations" ...wherein the means for determining the cost of the customer relationship management (CRM) comprises means for determining costs for at least one of: a work order entry and validation process; a service delivery and work order processing process; a customer care process; a trouble ticketing process; and a service assurance and performance reporting process."

 Claim 21 adds the claimed limitations to a base claim, independent claim 1, which is distinct from the prior art.

20 Neither Ngi nor EURESCOM, separately or in combination, teaches the limitations of claim 21.

 Accordingly, for at least the reason that the combination of Ngi and EURESCOM **fails to** teach or suggest the limitations of claims 2 and 21, it is respectfully requested that the rejection of claims 2 and 21 be withdrawn.

25 **Regarding Claims 3 and 22:**

 On pages 6 and 7 of the office action, the Examiner relies on Ngi at ([0055]) and EURESCOM at (D2, Volume 1: page 11, Table 1) as teaching the limitations of claims 3 and 22.

30 In order to support a rejection under 35 U.S.C. §103, the combination of references should show or suggest *every* limitation in the claims.

 Ngi at ([0055]) teaches "According to an embodiment of the present invention, a generic network model is employed in order to determine a network

configuration based on customer parameters. This network configuration is preferably optimal with respect to one or more customer parameters or requirements. In an apparatus according to an embodiment of the present invention, this determination of a network configuration using a generic network model may be performed at a
5 network planning means. The generic network model that is employed characterizes a network on the basis of a plurality of input and output parameters across the network rather than on the basis of characteristics of specific network element models. This allows for the modeling of ring and mesh network topologies, as well as any other topology, since the generic network model is independent of the network topology.
10 The generic network model provides a framework within which a network consultant can compare a proposed network enhancement to a customer's current network, a partner's specific network topology, or a competitor's proposed solution. These models may include traditional SONET (Synchronous Optical NETwork), NG-SONET (Next Generation SONET) and MSPP (Multi-Service Provisioning Platform)
15 solutions. A network consultant employing this generic network model can thus demonstrate the efficiency and effectiveness of their proposed solution compared to other network solutions, whether existing or proposed.”

Ngi focuses **only** on generic network model and on traditional SONET (Synchronous Optical NETwork), NG-SONET (Next Generation SONET) and MSPP
20 (Multi-Service Provisioning Platform) solutions.

EUROCOM at (D2, Volume 1: page 11, Table 1) discloses 5 telecommunication layers of the Telecom Operations Map of the ITU-T TMN model and selected attributes (OA&M, provisioning, churn, decommissioning, and leased facilities) from which the running costs for the methodologies and models in the
25 project are originated. The focus, in these methodologies and models, is on the OA&M, provisioning, churn, decommissioning, and leased facilities and not on managing the network, service and customer of the network architecture. These selected attributes are relevant to the cost of the network architecture and technology and **do not cover** the engineering and costing of the network, service, and customer
30 management processes for managing the network architecture and technology for the Telecommunication Company or Service Provider. The methodologies and models for determining the costs of the selected attributes (OA&M, provisioning, churn,

decommissioning, and leased facilities) are based on using proprietary tools such as INVAN, OPTIMUM/TERA, and others.

EURESCOM clearly stated at (D2, Volume 2: pages 32-33, paragraph 3) that the P901 projects **do not** cover all the businesses of a telecommunication company and, therefore, several cost categories **are not** considered as a part of running or OA&M costs and **are not** described with more details in the document.

EURESCOM clearly stated at (D2, Volume 2: pages 32-33, paragraph 3) that all planning processes such as network planning and development, service planning and development are not considered as a part of running or OA&M costs and are not described with more details in the document.

Accordingly, the methodologies and models taught by EURESCOM exclude engineering and costing of network planning and development processes, service planning and development processes, and other processes that are related to managing and operating the network, service, and customer of the network architecture that are critical to the businesses of a telecommunication company (or a Service provider).

As discussed above, the combination of Ngi and EURESCOM references **fails to** disclose several elements of independent claim 1. In particular, the combination of Ngi and EURESCOM references **fails to** disclose elements (d), (e), and (f) of independent claim 1.

Claim 3 is a dependent claim and has all the limitations of the parent amended claim 1. Claim 3 has been amended by introducing additional limitations to better define the invention. Claim 3 adds limitations "...

- means for inputting technology options which comprise at least one of: time division multiplexing (TDM), asynchronous transfer mode (ATM), frame relay (FR), Internet protocol (IP), virtual private network (VPN), multi protocol label switching (MPLS), and optical Ethernet including fiber, synchronous optical network (SONET), resilience packet ring (RPR), and dense wavelength division multiplexing (DWDM) for a network architecture for a business solution;
- means for inputting options for the network management processes which comprise at least one of: inside plant maintenance, outside plant maintenance,

network engineering, network provisioning, installation, testing, and repairs for managing the network architecture for the business solution; and

- means for inputting options for the service and customer management processes which comprise at least one of: customer relationship management (CRM), work order management (WOM), network inventory management (NIM), service activation and provisioning (SAP), fault management (FM), performance management (PM), accounting and billing, and security management for managing the network architecture for the business solution.”

10 Claim 3 adds the claimed limitations to a base claim, independent claim 1, which is distinct from the prior art.

There is no mention or suggestion that the tool taught by Ngi or the methodology and framework taught by EURESCOM teach the limitations of the amended claim 3.

15 Claim 22 is a dependent claim and has been amended by introducing additional limitations to better define the invention and to clearly differentiate the present invention from the cited prior art references. Claim 22 has all the limitations of the parent claim 1.

20 Claim 22 adds limitations “... wherein the means for determining the cost of the work order management (WOM) comprises means for determining costs for at least one of: a work order processing process; a client management process; a report management process; and an administration management process.”

Claim 22 adds the claimed limitations to a base claim, independent claim 1, which is distinct from the prior art.

25 Neither Ngi nor EURESCOM, separately or in combination, teaches the limitations of claim 22.

Accordingly, for at least the reason that the combination of Ngi and EURESCOM **fails to** teach or suggest the limitations of claims 3 and 22, it is respectfully requested that the rejection of claims 3 and 22 be withdrawn.

30

Regarding Claims 4, 27, and 32:

On pages 7 and 8 of the office action, the Examiner relies on EURESCOM at (D1, Volume 2: page 6, paragraph 5; page 7, paragraph 3; page 75, paragraph 7; page 76, paragraph 2) and Ngi at ([0119], Table 2) as teaching the limitations of claims 4, 27, and 32.

In order to support a rejection under 35 U.S.C. §103, the combination of references should show or suggest *every* limitation in the claim.

Claim 27 has been canceled without prejudice.

The Examiner relies on EURESCOM at (D1, Volume 2: page 6, paragraph 5; page 7, paragraph 3; page 75, paragraph 7; page 76, paragraph 2) as teaching "... means for computing the business parameters for the business solutions over a pre-determined study period".

EURESCOM at (D1, Volume 2: page 6, paragraph 5; page 7, paragraph 3; page 75, paragraph 7; page 76, paragraph 2) teaches:

"The technology strategy of an operator is defined by the target network architecture and a set of evolutionary paths (ways to get from the present network architecture to the target architecture). The terms *scenarios* and *evolutionary paths* are defined later in this chapter. Each evolutionary path is defined by a number of technology upgrades within a given period called the study period or project lifetime. For R&D related projects which are long term, the project lifetime is mostly 5-10 years."

"IFC is calculated as the sum of total discounted investment within the study period, whereas LCC is defined as sum of discounted investments and running costs."

"Life Cycle Cost

Life Cycle Cost is defined as the sum of global discounted investments and global discounted running (or OA&M) costs. This value **represents the total cost for constructing and running the network over the study period.**"

"In an investment scenario where most of the expenditure happens at the beginning of the study period, the Payback Period gives a good indication of the efficiency of the investment. If the scenario is more complex, that is, if there are for example several technology steps in an upgrade situation, it is not possible to define a single Payback

Period. It is still possible to use the Cash Balance curve as an indicator for the profitability of the scenario. In these cases it is important to study the trend of cash flow at the end of the study period.”

5 Although the term “study period” is found in EURESCOM at (D1, Volume 2: page 6, paragraph 5; page 7, paragraph 3; page 75, paragraph 7; page 76, paragraph 2), as shown above, EURESCOM **does not** teach the claimed limitation of “....means for computing the business parameters for the business solutions over a pre-determined study period”.

10 As previously discussed, the EURESCOM project P901 main contribution is the specification of recommended methodologies and models to be used in investment analysis of telecommunication operator strategies. The specification is based on a survey and assessment of relevant approaches and methodologies for the assessment of the economics of telecommunication operator investment projects, as outlined in D1, Volume 2, “Investment analysis framework definition and requirements
15 specification”. The EURESCOM Project P901 provides framework and guidelines for high level executive issues that must be tackled in an increasing competitive telecommunications market.

20 The term “study period” at (D1, Volume 2: page 6, paragraph 5; page 7, paragraph 3; page 75, paragraph 7; page 76, paragraph 2), as shown above, is used to define parameters and requirements for proprietary tools to be used in the projects.

Ngi at ([0119]) teaches: “Table 2 below illustrates some of the other possible business parameters that may be calculated, and upon which advanced network business reports may be generated.”

25 Table 2 of Ngi teaches that “the capital expenditure is described as the capital cost breakdown for build, own, grow”, and measured by “total capital cost requirement”, and the operational expenditure is described as the operational cost breakdown for build, own, grow”, and measured by “total operational cost requirement”. The other possible business parameters include Return On Assets (ROA), Return On Investment (ROI), Net Present Value (NPV), Total Cost of
30 Operation (TCO), and Discounted Cash Flow which is described as Time value of money.

Accordingly, the CAPEX and OPEX taught by Ngi are described as the capital cost and operational cost breakdown to build, own, and grow of a network architecture or topology.

As discussed above, the combination of Ngi and EURESCOM references
5 **fails to** disclose several elements of independent claims 1 and 31. In particular, the combination of Ngi and EURESCOM references **fails to** disclose elements (d), (e), and (f) of the claimed invention.

Claims 4 and 32 are dependent claims. Claim 4 has all the limitations of the parent amended claim 1. Claim 32 has all the limitations of the parent amended claim
10 31.

Claims 4 and 32 have been amended to comply with 35 U.S.C. 132(a) and overcome the Examiner's objection. The claimed limitations: "...

- computing the business parameters for the business solutions over a pre-determined study period; and
- 15 - determining the business parameters which comprise at least one of: capital expenditure (CAPEX), wherein the CAPEX comprises a network architecture cost, taxes, interests, and depreciation and amortization (D/A) expenses; operational expenditure (OPEX), wherein the OPEX comprises a management processes cost, a leasing cost, and sales, general and administration (SG&A); revenue; capacity;
20 return on investment (ROI); earnings before interest, taxes, and depreciation and amortization (EBITDA); earnings before interest and taxes (EBIT); the OPEX as percentage of the revenue; and total expenditure as percentage of the revenue, wherein the total expenditure comprises the CAPEX and the OPEX."

25 Claim 4 adds the claimed limitations to a base claim, independent claim 1, which is distinct from the prior art.

Claim 32 adds the claimed limitations to a base claim, independent claim 31, which is distinct from the prior art.

Accordingly, for at least the reason that the combination of Ngi and
30 EURESCOM **fails to** teach or suggest the limitations of claims 4 and 32, it is respectfully requested that the rejection of claims 4 and 32 be withdrawn.

Regarding Claims 5, 23, and 35:

On page 8 of the office action, the Examiner relies on Ngi at ([0055]) as teaching the limitations of claims 5, 23, and 35.

In order to support a rejection under 35 U.S.C. §103, the prior art reference
5 should show or suggest *every* limitation in the claim.

Refer to claim 3 above regarding Applicant's arguments/remarks on Ngi at ([0055]).

Claims 5 and 35 have been amended by introducing additional limitations to improve clarity.

10 The claimed limitations: ".....engineering the network architecture for the business solution."

As discussed above, the combination of Ngi and EURESCOM references **fails to** disclose several elements of independent claims 1 and 31. In particular, the combination of Ngi and EURESCOM references **fails to** disclose elements (d), (e),
15 and (f) of the claimed invention.

Claims 5 and 35 are dependent claims. Claim 5 has all the limitations of the parent amended claim 1. Claim 35 has all the limitations of the parent amended claim 31.

20 Claim 5 adds the claimed limitation to a base claim, independent claim 1, which is distinct from the prior art.

Claim 35 adds the claimed limitation to a base claim, independent claim 31, which is distinct from the prior art.

Claim 23 is a dependent claim and has been amended by introducing additional limitations to better define the invention and to clearly differentiate the
25 present invention from the cited prior art references. Claim 23 has all the limitations of the parent claim 1.

Claim 23 adds limitations "...wherein the means for determining the cost of the network inventory management (NIM) comprises means for determining costs for at least one of: a customer, services, and resources association management process;
30 an equipment management process; and a network management process."

Claim 23 adds the claimed limitations to a base claim, independent claim 1, which is distinct from the prior art.

Neither Ngi nor EURESCOM, separately or in combination, teaches the limitations of claim 23.

Accordingly, for at least the reason that the combination of Ngi and EURESCOM **fails to** teach or suggest the limitations of claims 5, 23 and 35, it is respectfully requested that the rejection of claims 5, 23 and 35 be withdrawn.

Regarding Claim 6:

On page 8 of the office action, the Examiner relies on EURESCOM at (D2, Volume 1: page 11, Table 1) as teaching the limitations of claim 6.

10 In order to support a rejection under 35 U.S.C. §103, the combination of references should show or suggest *every* limitation in the claim.

Refer to claim 3 above regarding Applicant's arguments/remarks on EURESCOM at (D2, Volume 1: page 11, Table 1). EURESCOM at (D2, Volume 1: page 11, Table 1) teaches selected attributes from the Telecom Operations Map of the ITU-T TMN model which comprise OA&M, provisioning, churn, decommissioning, and leased facilities. These selected attributes are relevant to the cost of the network architecture and technology and **do not cover** the engineering and costing of the network, service, and customer management processes for managing the network architecture and technology for the Telecommunication Company or Service Provider.

20 As discussed above, the combination of Ngi and EURESCOM references **fails to** disclose several elements of independent claim 1. In particular, the combination of Ngi and EURESCOM references **fails to** disclose elements (d), (e), and (f) of independent claim 1.

Claim 6 is a dependent claim and has all the limitations of the parent amended claim 1.

Claim 6 adds limitations: "...means for engineering the network management processes and the service and customer management processes for managing the network architecture for the business solution."

Claim 6 adds the claimed limitation to a base claim, independent claim 1, which is distinct from the prior art.

Accordingly, for at least the reason that the combination of Ngi and EURESCOM **fails to** teach or suggest the limitations of claim 6, it is respectfully requested that the rejection of claim 6 be withdrawn.

5 **Regarding Claims 7, 28, and 38:**

On page 8 of the office action, the Examiner relies on Ngi at ([0114], [0123]-[0124]) as teaching "... wherein the means (h) comprises means for displaying the business parameters in tables and graphical charts for the business solutions over the pre-determined study period."

10 In order to support a rejection under 35 U.S.C. §103, the prior art reference should show or suggest *every* limitation in the claim.

Ngi at (paragraph [0114]) states:

15 "FIG. 16 illustrates a second example of an advanced network business report. In the example of FIG. 16, two types of equipment are compared at a node level. Using an advanced network business report as shown in FIG. 16, a network consultant is able to demonstrate the node-level cost savings that may be achieved by implementing the network consultant's network proposal. The exemplary advanced network business report in FIG. 16 comprises a graphical area 1610 and a plurality of text or information areas, although any combination of such types of areas could

20 alternatively be used to convey advanced network business report information. In the particular example of FIG. 16, it is shown diagrammatically in the graphical area 1610 that one shelf of the node included in the network consultant's proposal is able to provide the same functionality as four shelves plus additional equipment in the competitor's proposal. A summary information area 1621 preferably provides a

25 summary, textual or otherwise, of a comparison between a network consultant's proposal and one or more other proposals, preferably providing information regarding advantages of the network consultant's proposal. A detailed information area 1622 preferably provides a more detailed comparison of the networks being compared, as is illustrated in the textual information shown in FIG. 16. A limitation summary

30 information area 1623 preferably provides an elaboration regarding limitations or drawbacks associated with a network configuration, such as a competitor's configuration, with which a network consultant's proposal is being compared."

Ngi at (paragraph [0123]) states:

“As an example of implementation, FIG. 17A and 17B illustrate examples of advanced network business reports based on total network co-location cost for two networks. The actual co-location costs shown in FIG. 17A are calculated in accordance with the method described in relation to FIG. 14. In the report of FIG. 17A, a tangible tabular result is presented illustrating the operational savings achieved with the network consultant's solution over an existing solution or competitor's solution. In the report of FIG. 17B, a tangible graphical result is presented illustrating a comparison of the total network co-location cost of the network consultant's network and its competitor's network. These output reports are immediately useful to both the customer and network consultant in evaluating the strength of the network consultant's solution.

Ngi at (paragraph [0124]) states:

“As another example of implementation, FIG. 18 illustrates an example of an advanced network business report based on total network co-location cost for three networks: a network consultant's proposal; a competitor's proposal, preferably based on a next generation network; and an existing conventional, or classic, proposal, preferably based on an existing configuration. FIG. 18 shows that an advanced network business report can comprise characterizations of one or more business parameters. In this particular example, graphs relating to the following business parameters are presented: total cost to build, consisting of total capital expenditures (CAPEX) and operational expenditures (OPEX); shelf and card installs; and network capacity vs. service bandwidth. The report shown in FIG. 18 is a useful and tangible result presented in a format that allows a comparison of a plurality of network proposals with respect to a plurality of business parameters.”

As discussed before, the main focus of the tool taught by Ngi, (as per Fig 16 of Ngi), is on using generic network model to demonstrate the benefits of one network architecture or topology versus other network architecture or topology and to compare the costs of the network architecture or topology to the costs of the other network architecture or topology.

Ngi at (paragraphs [0123]-[0124]) compares the costs of two network architectures and three network architectures, respectively. The modeling focuses on

traditional SONET and next generation SONET for optical networks, (paragraph [0055]). The network architecture is determined based on equipment list costs as produced by the link budget. The capital expenditure and the operational expenditure are described as architecture costs, costs to build, own and grow (paragraphs [0031]-
5 [0033] and [0097] and Table 2 of Ngi).

Further, the Examiner states that Ngi **does not** teach elements (c), (d), (e), and (f) of the claimed invention.

In contrast, the present invention focuses on the management and operations of the network architecture and demonstrates the benefits of one business
10 solution versus other business solutions, wherein each business solution comprises network architecture and its management network. For example, Figure 18 of the present invention illustrates the management processes cost for five network architectures (ARCH1 to ARCH5).

The management processes cost comprises a network management
15 processes cost and a service and customer management processes cost.

The network management processes cost comprises the cost of performing one or more of the following network management processes: installation, testing and repair, inside and outside maintenance, network engineering and provisioning for all network elements in the network architecture or topology and is
20 measured as *a process cost for each network element in the network architecture*.

The service and customer management processes cost comprises the cost of performing one or more of the following service and customer management processes: performance management (PM), fault management (FM), Service activation and provisioning (SAP), network inventory management (NIM), work order
25 management (WOM), and customer relationship management (CRM) for all links in the network architecture or topology and is measured as *a process cost for each link in the network architecture*.

The process cost for each network element and the process cost for each link in the network architecture are measured based on whether the operations of the
30 process is performed manually, using mechanized systems (or operations support systems (OSS)), or both based on the Service Provider operating environment, paragraphs [0101] to [0138] and Figures 8 to 14 of the present invention.

Claim 28 has been canceled without prejudice.

Claims 7 and 38 are dependent claims. Claim 7 has all the limitations of the parent amended claim 1. Claim 38 has all the limitations of the parent amended claim 31.

5 Claim 7 adds limitations to a base claim, independent claim 1, which is distinct from the prior art.

 Claim 38 adds limitations to a base claim, independent claim 31, which is distinct from the prior art.

 The claimed limitations: “....displaying the business parameters in tables
10 and graphical charts for the business solutions over the pre-determined study period.”

 As discussed above, the combination of Ngi and EURESCOM references **fails to** disclose several elements of independent claims 1 and 31. In particular, the combination of Ngi and EURESCOM references **fails to** disclose elements (d), (e),
15 and (f) of the claimed invention.

 Accordingly, for at least the reason that the combination of Ngi and EURESCOM **fails to** teach or suggest the limitations of claims 7 and 38, it is respectfully requested that the rejection of claims 7 and 38 be withdrawn.

20 **Regarding Claims 8, 24, and 34:**

 On page 9 of the office action, the Examiner’s relies on EURESCOM at (D1, Volume 2: page 5, paragraph 1 and D2 Volume 2: pages 30-31, Section 3.2.2) as teaching the limitations of claims 8, 24, and 34.

 In order to support a rejection under 35 U.S.C. §103, the combination of
25 reference should show or suggest *every* limitation in the claim.

 The Examiner states that Ngi **fails to** disclose elements (c), (d), (e), and (f) of the present invention.

 EURESCOM at (D1, Volume 2: page 5, paragraph 1) discloses: “In the following, we will use the term “module” for a group of generic models that cover a
30 specific area for example cost methodologies. At this stage we will not discuss the granularity of these models, nor the ways of implementation (Excel, high level language etc.); this work will be performed later on in the project. As an example, the costing module contains all the costing models are gathered in a well-structured way. As can be seen in Figure 5, each module will most often have inputs and outputs. The

inputs to the cost, market, and risk models are defined by the scenarios. Even though the investment projects under study and their respective scenarios may be very significant, the following model elements must be presented in a general way:

- 5 • Services. Penetration, number of customers and tariffs are presented as time series.
- Network architecture. Cost evolution and volume of each network element (time series)
- Market segments. Number of customers in each market segment as a function of time (for each service). A moderate number of segments is recommended.
- 10 • Usage of services. For each market segment, the usage for each service is most often modeled as busy hour traffic in Mb per day/month (data) or minutes per day/month (voice)
- Area types. Different areas are described by the same attributes: Customer density, customer mix, average loop lengths, duct availability, surface conditions
- 15 (necessary for civil works cost estimates) and housing (single house dwellings or apartments).”

Here, EURESCOM at (D1, Volume 2: page 5, paragraph 1) discloses high level specifications for generic models for strategic planning (D1, Volume 2: page 3, Section 1.3). The model elements include services, network architecture, market

20 segments, and others as shown above, that form a group of generic models for specific cost methodologies that are used in various proprietary tools such as INVAN for calculating the cost of network architecture, and OPTIMUM/TERA for calculating OA&M. These tools are used in the extended telecommunication operator investment analyses framework.

25 EURESCOM at (D2 Volume 2: pages 30-31, Section 3.2.2) discloses:
“Leased facilities costs

For some investment project, it may be that the project does not own some, or indeed any, of the resource that are required for the provision of a service.

Leased facilities costs = Connection cost + rental cost + usage cost

30 **Connection cost:** The unique non-capitalized cost of leasing a resource. It can also represent a non-capital cost incurred when equipment is installed in the network. A typical example is the connection cost of a leased line.

Rental cost: Periodical cost of renting/leasing equipment or resources, e.g. rental of a leased lines.

35 **Usage cost:** Periodical cost of using rented or leased equipment / resources / network service, charged on the basis of connected time, used capacity or volume, e.g. telephony.”

Again, EURESCOM at (D2 Volume 2: pages 30-31, Section 3.2.2) discloses generic specification for calculating leased facilities costs. However, the leased facilities costs are used as input data to the INVAN tool to calculate NPV, IRR, and PP.

5 As previously discussed, the EURESCOM Project P901 provides framework and guidelines for high *level investment, operation, administration, and maintenance cost modeling*. Accordingly, a skilled person in the art reading EURESCOM Project P901 would not be able to use the information of the project and re-produce the results of the project due to lack of details in the specification of various
10 methodologies and models as well as the proprietary tools (INVAN, OPTIMUM/TERA, and others).

As discussed above, the combination of Ngi and EURESCOM references **fails to** disclose several elements of independent claims 1 and 31. In particular, the combination of Ngi and EURESCOM references **fails to** disclose elements (d), (e),
15 and (f) of the claimed invention.

Claims 8 and 34 are dependent claims. Claim 8 has all the limitations of the parent amended claim 1. Claim 34 has all the limitations of the parent amended claim 31.

The claimed limitations: “....determining a network architecture cost and a
20 leasing cost for the network architecture for the business solution”

Claim 8 adds the claimed limitation to a base claim, independent claim 1, which is distinct from the prior art.

Claim 34 adds the claimed limitation to a base claim, independent claim 31, which is distinct from the prior art.

25 Claim 24 is a dependent claim and has been amended by introducing additional limitations to better define the invention and to clearly differentiate the present invention from the cited prior art references. Claim 24 has all the limitations of the parent claim 1.

Claim 24 adds limitations “...wherein the means for determining the cost of
30 the service activation and provisioning (SAP) comprises means for determining costs for at least one of: a create a new service process; a customer association process; a

process for aligning and synchronizing with billing, maintenance, and performance;
and a resource discovery and database quires process.”

Claim 24 adds the claimed limitations to a base claim, independent claim 1,
which is distinct from the prior art.

5 Neither Ngi nor EURESCOM, separately or in combination, teaches the
limitations of claim 24.

Accordingly, for at least the reason that the combination of Ngi and
EURESCOM **fails to** teach or suggest the limitations of claims 8, 24 and 34, it is
respectfully requested that the rejection of claims 8, 24 and 34 be withdrawn.

10

Regarding Claim 9:

On page 9 of the office action, the Examiner relies on EURESCOM at (D1,
Volume 2: page 28, paragraph 1; page 5, paragraph 1; D2, Volume 2: pages 30-31,
Section 3.2.2; pages 34-35, Section 3.4) as teaching element (f) of the claimed
15 invention, wherein (f) comprises means for validating and calibrating the data and
options; the network architecture cost; and the leasing cost for said network
architecture for the business solution.

In order to support a rejection under 35 U.S.C. §103, the combination of
reference should show or suggest *every* limitation in the claim.

20 Refer to independent claims 1 and 31 above for Applicant
arguments/remarks on EURESCOM at (D1, Volume 2: page 28, paragraph 1; page 5,
paragraph 1; D2, Volume 2: pages 30-31, Section 3.2.2; pages 34-35, Section 3.4).

As discussed above, the combination of Ngi and EURESCOM references
fails to disclose several elements of independent claim 1. In particular, the
25 combination of Ngi and EURESCOM references **fails to** disclose elements (d), (e),
and (f) of independent claim 1.

Claim 9 is a dependent claim and has all the limitations of the parent
amended claim 1.

30 Claim 9 adds limitations: “.....means for validating and calibrating the data
and options; the network architecture cost; and the leasing cost for said network
architecture for the business solution.”

Claim 9 adds the claimed limitation to a base claim, independent claim 1, which is distinct from the prior art.

Accordingly, for at least the reason that the combination of Ngi and EURESCOM fails to teach or suggest the limitations of claim 9, it is respectfully
5 requested that the rejection of claim 9 be withdrawn.

Regarding Claim 10:

On page 9 of the office action, the Examiner relies on EURESCOM at (D1, Volume 2: page 14, paragraph 3); (D1, Volume 2: page 86, paragraph 7); (D1,
10 Volume 2: page 57, paragraph 8-9; page 60, paragraph 3); (D2, Volume 2: page 67, Sections 6.3.1.1 and 6.3.1.2); (D2, Volume 2: page 64, paragraph 6); and (D1, Volume 2: page 49, paragraph 5; page 50, paragraph 5; page 86, paragraph 7) as teaching the limitations of claim 10.

In order to support a rejection under 35 U.S.C. §103, the combination of
15 references should show or suggest *every* limitation in the claim.

EURESCOM teaches the following:

- “number of network element” at (D1, Volume 2: page 14, paragraph 3) in relation to the input parameters for the proprietary tool for Network dimensioning (INPLAN);
- 20 - “rental costs” at (D1, Volume 2: page 86, paragraph 7) in relation to the Input parameters for another tool (INVAN tool) for determining network architecture cost;
- “link costs” at (D1, Volume 2: page 57, paragraph 8-9; page 60, paragraph 3) in relation to the dimensioning of hierarchical network;
- 25 - “number of leased lines” at (D2, Volume 2: page 67, Sections 6.3.1.1 and 6.3.1.2) in relation to the investment costs and demand parameters and costing the Local Access Network;
- “ports” at (D2, Volume 2: page 64, paragraph 6) in relation to a cost allocation system related to Local Access-Network; and

- “suppliers” at (D1, Volume 2: page 49, paragraph 5; page 50, paragraph 5; page 86, paragraph 7) in relation to guidelines for economic analysis, technological evolution, and input data for INVAN tool for determining network architecture cost.

5 The “number of network element”, “rental costs”, “link costs”, “number of leased lines”, “ports”, and “suppliers” are found in various sections in the document and in relation to input/output parameters for proprietary tools (INPLAN, INVAN, OPTIMUM/TERA, etc.) to be used in the EURESCOM project P901.

10 As discussed previously, the EURESCOM project P901 main contribution is the *specification of recommended methodologies and models to be used in investment analysis of telecommunication operator strategies*. The specification is based on a survey and assessment of relevant approaches and methodologies for the assessment of the economics of telecommunication operator investment projects.

 Accordingly, EURESCOM **does not** teach the limitations of claim 10.

15 As discussed above, the combination of Ngi and EURESCOM references **fails to** disclose several elements of independent claim 1. In particular, the combination of Ngi and EURESCOM references **fails to** disclose elements (d), (e), and (f) of independent claim 1.

20 Claim 10 is a dependent claim and has all the limitations of the parent amended claim 1.

25 Claim 10 adds limitations: “.....means for determining an owned network elements (NEs) count; a leased NEs count; an owned customer premise equipment (CPE) count; a leased CPE count; an owned links count; a leased links count; and a leased ports count for said network architecture; and wherein said network architecture having NEs, CPE, and links from the same or different equipment suppliers.”

 Claim 10 adds the claimed limitation to a base claim, independent claim 1, which is distinct from the prior art.

Accordingly, for at least the reason that the combination of Ngi and EURESCOM fails to teach or suggest the limitations of claim 10, it is respectfully requested that the rejection of claim 10 be withdrawn.

5 **Regarding Claim 15:**

On page 10 of the office action, the Examiner relies on EURESCOM at (D2, Volume 1: page 12, Table 2; D2, Volume 2: page 68, Section 6.3.1.2) as teaching “wherein the means (e) comprises means for determining a management processes cost comprising a network management processes cost and a service and
10 customer management processes cost for the business solution.”

In order to support a rejection under 35 U.S.C. §103, the combination of references should show or suggest *every* limitation in the claim.

EURESCOM at (D2, Volume 1: page 12, Table 2) discloses selected attributes of the maintenance processes of the Telecom Operations Map of the ITU-T
15 TMN model as shown below:

“Maintenance processes:

Maintenance process	Cost factors (drivers)	Driving parameters
Service maintenance	<ul style="list-style-type: none">• Manpower• Customer care system	<ul style="list-style-type: none">• Duration of maintenance process (customer care, and advise)• Number of customers
Network maintenance	<ul style="list-style-type: none"><input type="checkbox"/> Manpower<input type="checkbox"/> Replaced equipment	<ul style="list-style-type: none"><input type="checkbox"/> Mean time between failure<input type="checkbox"/> Duration of maintenance process<input type="checkbox"/> Cost of the element<input type="checkbox"/> Network size / Nb. of elements

Table 2 Cost factors and driving parameters of a few maintenance processes”

20 These maintenance processes are relevant to costs of network architecture and technology and **do not include** processes for managing and operating the network, service, and customer of the network architecture and technology that are critical to evolving the businesses of the Telecommunication Company or Service Provider.

EURESCOM at (D2, Volume 2: page 68, **Section 6.3.1.2**) **does not**
25 disclose means for determining a management processes cost comprising a network management processes cost and a service and customer management processes cost, as shown below:

“6.3.1.2 Costing the Local Access Network

Preliminary Work to Determine the Investment Volume

5 Costing the network elements is based on a number of steps, described separately for more clarity. These steps include for instance the allocation of subscriber lines to distribution areas, feeder sections, main distribution frames and local exchanges. In addition, 2 Mbit/s equivalents are determined for transmission links in the local network and capital and operating cost factors identified. Specifically, this means the following:

- Dividing the Local network Area into Distribution Areas
- 10 • Establishing the Demand for Subscriber Lines in the Individual Distribution Areas
- Dividing the Distribution Areas into Types
- Allocating Distribution Areas to Access Areas
- Allocating Distribution Areas to Feeder Sections
- 15 • Calculating the Lengths of the Feeder and Distribution Networks
- Establishing the Necessary Copper pair Diameters
- Establishing then Number of Wire Pairs
- Establishing the Traffic Volume for Access Areas
- Establishing the Logical Traffic Relations between Networks Nodes
- 20 • Establishing the Number of DSV2 Digital Connections for Transmission in the Local Network
- Establishing the Lengths of Junction Cables
- Establishing the Capital and Operating Cost Factors”

25 There is no mention or suggestion of any means for determining costs of management processes comprising a network management processes cost and a service and customer management processes cost. This is because, EURESCOM clearly stated at (D2, Volume 2: pages 32-33, paragraph 3) that:

“....These projects **do not** cover all the businesses of a telecommunication company. Therefore, several cost categories, listed below, are not considered as a part of running
30 or OA&M costs and are not described with more details in this document:

- All planning processes (network planning and development, service planning and development).....”

Accordingly, the methodologies and models taught by EURESCOM exclude the engineering and costing of network planning and development processes, service planning and development processes, and other processes that are related to managing and operating the network, service, and customer of the network
5 architecture that are critical to the businesses of a telecommunication company (or a Service provider).

The EURESCOM reference focuses **only** on the cost of selected attributes of the Telecom Operations Map of the ITU-T TMN model that are relevant to the costs of the network architecture and technology. These selected attributes **do not**
10 cover all the businesses of the Telecommunication Company or Service Provider.

As discussed above, the combination of Ngi and EURESCOM references **fails to** disclose several elements of independent claim 1. In particular, the combination of Ngi and EURESCOM references **fails to** disclose elements (d), (e), and (f) of independent claim 1.

15 Claim 15 is a dependent claim and has all the limitations of the parent amended claim 1.

Claim 15 has been amended by introducing additional limitations to improve clarity. Claim 15 adds limitations: “.....

- 20 - means for determining a network management processes cost, wherein the means for determining the network management processes cost comprises means for determining costs for inside plant maintenance, outside plant maintenance, network engineering, network provisioning, installation, testing, and repairs for each network element in the network architecture for the business solution;
- 25 - means for determining a service and customer management processes cost, wherein the means for determining the service and customer management processes cost comprises means for determining costs for customer relationship management (CRM), work order management (WOM), network inventory management (NIM), service activation and
30 provisioning (SAP), fault management (FM), performance management

(PM), accounting and billing, and security management for each link in the network architecture for the business solution; and

- means for determining a management processes cost which comprises the network management processes cost and the service and customer management processes cost means.”

Claim 15 adds the claimed limitation to a base claim, independent claim 1, which is distinct from the prior art.

Accordingly, for at least the reason that the combination of Ngi and EURESCOM fails to teach or suggest the limitations of claim 15, it is respectfully requested that the rejection of claim 15 be withdrawn.

Regarding Claim 16:

On page 10 of the office action, the Examiner relies on EURESCOM at (D2, Volume 1: page 11, Table 1; Page 12, Table 2) as teaching “wherein the means for engineering the network management processes comprises a means for engineering one or more of the following: inside plant maintenance; outside plant maintenance; network engineering; network provisioning; installation; testing; and repairs.”

In order to support a rejection under 35 U.S.C. §103, the combination of references should show or suggest *every* limitation in the claim.

Refer to independent claims 1 and 31 above for Applicant arguments/remarks on EURESCOM at (D2, Volume 1: page 11, Table 1).

Refer to claim 15 above for Applicant arguments/remarks on EURESCOM at (D2, Volume 1: page 12, Table 2).

There is no mention or suggestion of network management processes comprise inside plant maintenance; outside plant maintenance; network engineering; network provisioning; installation; testing; and repairs. The cost modeling and analysis taught by EURESCOM refer **only** to selected attributes from the Telecom Operations Map of the ITU-T TMN model which comprise OA&M, provisioning, churn, decommissioning, and leased facilities. These selected attributes are relevant to the cost of the network architecture and technology and **do not cover the engineering**

and costing of the network, service, and customer management processes for
managing the network architecture and technology for the Telecommunication
Company or Service Provider.

As discussed above, the combination of Ngi and EURESCOM references
5 **fails to** disclose several elements of independent claim 1. In particular, the
combination of Ngi and EURESCOM references **fails to** disclose elements (d), (e),
and (f) of independent claim 1.

Claim 16 is a dependent claim and has all the limitations of the parent
amended claim 1.

10 Claim 16 adds limitations: “.....wherein the means for engineering the
network management processes comprises a means for engineering at least one of the
following processes: inside plant maintenance; outside plant maintenance; network
engineering; network provisioning; installation; testing; and repairs.”

Claim 16 adds the claimed limitation to a base claim, independent claim 1,
15 which is distinct from the prior art.

Claim 16 has been amended by introducing additional limitations to
improve clarity.

Accordingly, for at least the reason that the combination of Ngi and
EURESCOM **fails to** teach or suggest the limitations of claim 16, it is respectfully
20 requested that the rejection of claim 16 be withdrawn.

Regarding Claim 17:

On pages 10-11 of the office action, the Examiner relies on EURESCOM at
(D2, Volume 1: Page 12, Table 2) as teaching “....means for determining the network
25 management processes cost for said network management processes for one or more
of the following: a manual operations mode; a mechanized operations mode; and a
manual and mechanized operations mode.”

In order to support a rejection under 35 U.S.C. §103, the combination of
references should show or suggest *every* limitation in the claim.

30 Refer to claims 15 and 16 above for Applicant arguments/remarks on
EURESCOM at (D2, Volume 1: page 12, Table 2).

EURESCOM Project P901 **does not** cover Telecommunication Company (or Service Provider) operating and management environment and thus, there is no mention or suggestion of manual or mechanized (i.e., operations support systems (OSS)) processes for managing the network, service and customer. The focus of the cited prior art references is on the costs of the network architecture and technology and thus, the costs of the manual or mechanized operations and management of the network, service, and customer are excluded. The cited prior art reference focuses **only** on the cost of selected attributes of the Telecom Operations Map of the ITU-T TMN model that are relevant to the costs of the network architecture and technology. These selected attributes **do not** cover all the businesses of the Telecommunication Company or Service Provider.

As discussed above, the combination of Ngi and EURESCOM references **fails to** disclose several elements of independent claim 1. In particular, the combination of Ngi and EURESCOM references **fails to** disclose elements (d), (e), and (f) of independent claim 1.

Claim 17 is a dependent claim and has all the limitations of the parent amended claim 1.

Claim 17 adds limitations: “.....means for determining the network management processes cost for said network management processes for at least one of: a manual operations mode; a mechanized operations mode; and a manual and mechanized operations mode.”

Claim 17 adds the claimed limitation to a base claim, independent claim 1, which is distinct from the prior art.

Claim 17 has been amended by introducing additional limitation to improve clarity.

Accordingly, for at least the reason that the combination of Ngi and EURESCOM fails to teach or suggest the limitations of claim 17, it is respectfully requested that the rejection of claim 17 be withdrawn.

Regarding Claim 18:

On page 11 of the office action, the Examiner relies on EURESCOM at (D2, Volume 1: page 11, Table 1) as teaching “wherein the means for engineering the

service and customer management processes comprises a means for engineering one or more of the following: customer relationship management (CRM); work order management (WOM); network inventory management (NIM); service activation and provisioning (SAP); fault management (FM); performance management (PM);
5 accounting and billing; and security management.”

In order to support a rejection under 35 U.S.C. §103, the combination of references should show or suggest *every* limitation in the claim.

Refer to independent claims 1 and 31 above for Applicant arguments/remarks on EURESCOM at (D2, Volume 1: page 11, Table 1).
10 EURESCOM at (D2, Volume 1: page 11, Table 1) teaches selected attributes from the Telecom Operations Map of the ITU-T TMN model which comprise OA&M, provisioning, churn, decommissioning, and leased facilities. These selected attributes are relevant to the cost of the network architecture and technology and **do not cover** the engineering and costing of the network, service, and customer management
15 processes for managing the network architecture and technology for the Telecommunication Company or Service Provider.

As discussed above, the combination of Ngi and EURESCOM references **fails to** disclose several elements of independent claim 1. In particular, the combination of Ngi and EURESCOM references **fails to** disclose elements (d), (e),
20 and (f) of independent claim 1.

Claim 18 is a dependent claim and has all the limitations of the parent amended claim 1.

Claim 18 adds the limitation: “.....wherein the means for engineering the service and customer management processes comprises a means for engineering at
25 least one of the following processes: customer relationship management (CRM); work order management (WOM); network inventory management (NIM); service activation and provisioning (SAP); fault management (FM); performance management (PM); accounting and billing; and security management.”

Claim 18 adds the claimed limitation to a base claim, independent claim 1,
30 which is distinct from the prior art.

Claim 18 has been amended by introducing additional limitations to improve clarity.

Accordingly, for at least the reason that the combination of Ngi and EURESCOM fails to teach or suggest the limitations of claim 18, it is respectfully requested that the rejection of claim 18 be withdrawn.

5 **Regarding Claim 19:**

On page 11 of the office action, the Examiner relies on EURESCOM at (D2, Volume 2: page 68, Section 6.3.1.2) as teaching ““.....means for determining the service and customer management processes cost for said service and customer management processes for one or more of the following: a manual operations mode; a
10 mechanized operations mode; and a manual and mechanized operations mode.”

In order to support a rejection under 35 U.S.C. §103, the combination of references should show or suggest *every* limitation in the claim.

Refer to claims 15 and 17 above for Applicant arguments/remarks on EURESCOM at (D2, Volume 1: page 12, Table 2; D2, Volume 2: page 68, Section
15 6.3.1.2).

As previously discussed, EURESCOM Project P901 **does not** cover Telecommunication Company (or Service Provider) operating and management environment and thus, there is no mention or suggestion of manual or mechanized (i.e., operations support systems (OSS)) processes for managing the network, service
20 and customer. The focus of the cited prior art references is on the costs of the network architecture and technology and thus, the costs of the manual or mechanized operations and management of the network, service, and customer are excluded. The cited prior art reference only focuses on the cost of selected attributes that are relevant to the network architecture and technology. These selected attributes **do not** cover all
25 the businesses of the Telecommunication Company or Service Provider.

As discussed above, the combination of Ngi and EURESCOM references **fails to** disclose several elements of independent claim 1. In particular, the combination of Ngi and EURESCOM references **fails to** disclose elements (d), (e), and (f) of independent claim 1.

30 Claim 19 is a dependent claim and has all the limitations of the parent amended claim 1.

Claim 19 adds limitations: “.....means for determining costs of the customer relationship management (CRM); the work order management (WOM); the network inventory management (NIM); the service activation and provisioning (SAP); the fault management (FM); the performance management (PM); the accounting and billing; and the security management for at least one of: a manual operations mode; a mechanized operations mode; and a manual and mechanized operations mode.”

Claim 19 adds the claimed limitation to a base claim, independent claim 1, which is distinct from the prior art.

Claim 19 has been amended by introducing additional limitations to improve clarity.

Accordingly, for at least the reason that the combination of Ngi and EURESCOM **fails to** teach or suggest the limitations of claim 19, it is respectfully requested that the rejection of claim 19 be withdrawn.

Regarding Claims 25 and 36:

Refer to claims 16 and 18 above for Applicant arguments/remarks.

As discussed above, the combination of Ngi and EURESCOM references **fails to** disclose several elements of independent claims 1 and 31. In particular, the combination of Ngi and EURESCOM references **fails to** disclose elements (d), (e), and (f) of the claimed invention.

Claim 36 is a dependent claim and has all the limitations of the parent amended claim 31. Claim 36 adds limitations: “....

- engineering the network management processes which comprise engineering at least one of the following processes: inside plant maintenance, outside plant maintenance, network engineering, network provisioning, installation, testing, and repairs; and
- engineering the service and customer management processes which comprises engineering at least one of the following processes: customer relationship management (CRM), work order management (WOM), network inventory management (NIM), service activation and provisioning (SAP), fault management (FM), performance management (PM), accounting and billing, and security management.”

Claim 36 adds the claimed limitation to a base claim, independent claim 31, which is distinct from the prior art.

Claim 36 has been amended by introducing additional limitations to improve clarity.

5 Claim 25 is a dependent claim and has been amended by introducing additional limitations to better define the invention and to clearly differentiate the present invention from the cited prior art references. Claim 25 has all the limitations of the parent claim 1.

10 Claim 25 adds limitations "...wherein the means for determining the cost of the fault management (FM) comprises means for determining costs for at least one of: a trouble ticketing process; an isolate problem process; and an analysis and resolution for service logic agreement (SLA) process."

Claim 25 adds the claimed limitations to a base claim, independent claim 1, which is distinct from the prior art.

15 Neither Ngi nor EURESCOM, separately or in combination, teaches the limitations of claim 25.

Accordingly, for at least the reason that the combination of Ngi and EURESCOM **fails to** teach or suggest the limitations of claims 25 and 36, it is respectfully requested that the rejection of claims 25 and 36 be withdrawn.

20

Regarding Claims 26 and 37:

Refer to claims 17 and 19 above for Applicant arguments/remarks.

25 As discussed above, the combination of Ngi and EURESCOM references **fails to** disclose several elements of independent claims 1 and 31. In particular, the combination of Ngi and EURESCOM references **fails to** disclose elements (d), (e), and (f) of the claimed invention.

Claim 37 is a dependent claim and has all the limitations of the parent amended claim 31. Claim 37 adds limitations: "...

30 - determining a network management processes cost for the network management processes, which comprises determining costs of inside plant maintenance, outside plant maintenance, network engineering, network provisioning, installation, testing, and repairs for each network element in

the network architecture for the business solution for at least one of: a manual operations mode, a mechanized operations mode, and a manual and mechanized operations mode;

- 5 - determining a service and customer management processes cost for the service and customer management processes, which comprises determining costs of customer relationship management (CRM), work order management (WOM), network inventory management (NIM), service activation and provisioning (SAP), fault management (FM), performance management (PM), accounting and billing, and security management for each link in the
- 10 network architecture for the business solution for at least one of: a manual operations mode, a mechanized operations mode, and a manual and mechanized operations mode; and
- determining a management processes cost comprising the network management processes cost and the service and customer management
- 15 processes cost.”

Claim 37 adds the claimed limitation to a base claim, independent claim 31, which is distinct from the prior art.

Claim 37 has been amended by introducing additional limitations to improve clarity.

- 20 Claim 26 is a dependent claim and has been amended by introducing additional limitations to better define the invention and to clearly differentiate the present invention from the cited prior art references. Claim 26 has all the limitations of the parent claim 1.

25 Claim 26 adds limitations “...wherein the means for determining the cost of the performance management (PM) comprises means for determining costs for at least one of: a collect performance data process; a generate performance reports process; and a validate service logic agreement (SLA) process.”

Claim 26 adds the claimed limitations to a base claim, independent claim 1, which is distinct from the prior art.

- 30 Neither Ngi nor EURESCOM, separately or in combination, teaches the limitations of claim 26.

Accordingly, for at least the reason that the combination of Ngi and EURESCOM **fails to** teach or suggest the limitations of claims 26 and 37, it is respectfully requested that the rejection of claims 26 and 37 be withdrawn.

5 **Regarding Claims 29 and 30:**

Claims 29 and 30 have been canceled without prejudice.

Regarding Claim 33:

Refer to claims 2 and 3 above for Applicant arguments/remarks.

10 As discussed above, the combination of Ngi and EURESCOM references **fails to** disclose several elements of independent claim 31. In particular, the combination of Ngi and EURESCOM references **fails to** disclose elements (d), (e), and (f) of the claimed invention.

15 Claim 33 is a dependent claim and has all the limitations of the parent amended claim 31. Claim 33 adds limitations: “.....

- inputting traffic data, customer data, and labor and financial data;
- inputting technology options which comprise at least one of: time division multiplexing (TDM), asynchronous transfer mode (ATM), frame relay (FR), Internet protocol (IP), virtual private network (VPN), multi protocol label
- 20 switching (MPLS), and optical Ethernet including fiber, synchronous optical network (SONET), resilience packet ring (RPR), and dense wavelength division multiplexing (DWDM) for a network architecture for a business solution;
- inputting options for the network management processes which comprise at least one of: inside plant maintenance, outside plant maintenance, network
- 25 engineering, network provisioning, installation, testing, and repairs for managing the network architecture for the business solution; and
- inputting options for the service and customer management processes which comprise at least one of: customer relationship management (CRM), work order management (WOM), network inventory management (NIM), service activation
- 30 and provisioning (SAP), fault management (FM), performance management (PM), accounting and billing, and security management for managing the network architecture for the business solution.”

Claim 33 adds the claimed limitation to a base claim, independent claim 31, which is distinct from the prior art.

Claim 33 has been amended by introducing additional limitations to improve clarity.

5 Accordingly, for at least the reason that the combination of Ngi and EURESCOM **fails to** teach or suggest the limitations of claim 33, it is respectfully requested that the rejection of claim 33 be withdrawn.

To sum up, neither Ngi nor EURESCOM, separately or in combination, 10 teach the tool and method of the independent claims 1 and 31 of the present invention.

Independent claim 20 and dependent claims 27-30 have been canceled without prejudice.

Claims 2-19 and 21-26 are dependent claims and each dependent claim has all the limitations of the parent amended claim 1 and the intervening claims.

15 Claims 32-38 are dependent claims and each dependent claim has all the limitations of the parent amended claim 31 and the intervening claims.

Accordingly, it is not obvious to one of ordinary skill in the art reading Ngi and EURESCOM to produce the limitations of the claimed invention.

20 Therefore, it is respectfully submitted that the obviousness rejection of the Examiner in view of Ngi and further in view of EURESCOM has been traversed.

Accordingly, for at least the reason that the combination of Ngi and EURESCOM **fails to** disclose or suggests every limitation in claims 1-10, 15-19, 21-26, and 31-38, it is respectfully requested that the rejection under 35 U.S.C. § 103 be 25 withdrawn.

Claims 11-14:

30 With regard to section 11 of the Action, claims 11-14 were rejected under 35 U.S.C. 103 (a) as being unpatentable over Ngi in view of EURESCOM and further in view of Arbel et al., U.S. Patent Application Publication Number US 2004/0008673 A1 (hereinafter referred to as Arbel).

Arbel

Arbel teaches a novel telecommunications node architecture that comprises a novel technique for overhead processing. Some embodiments of the present invention advantageously exhibit a smaller footprint, reduced cost, and lower power
5 consumption than some architectures in the prior art. The illustrative embodiment comprises a plurality of input processors, a switch, an overhead processor, and a plurality of output processors, (Arbel, Abstract).

In order to support a rejection under 35 U.S.C. §103, the combination of references should show or suggest *every* limitation in the claim.

10 On pages 14-16 of the office action, the Examiner relies on EURESCOM at (D1, Volume 2: page 64, paragraphs 2-4); (D2, Volume 2: page 34, Table 7; page 35, Table 9); (D1, Volume 2: page 57, paragraphs 8-9; page 60, paragraph 3 and D2, Volume 2: page 68, Section 6.3.1.2); (D1, Volume 2: page 47, paragraph 5; page 65, paragraph 1); (D1, Volume 2: page 86, paragraph 7); (D2, Volume 2, page 67, Section
15 6.3.1.1 and Section 6.3.1.2)); (D2, Volume 2: page 64, paragraph 6); and Arbel ([0025], [0074]) as teaching the limitations of claims 11-14.

As is the case in claim 10 above, EURESCOM **does not** teach the limitations of claims 11-14. The “network element”, “link”, “port”, and “leased”, in the above cited pages and paragraphs, are found in various sections in the document
20 and in relation to input/output parameters for proprietary tools (INPLAN, INVAN, OPTIMUM/TERA, etc.) to be used in the EURESCOM project P901.

As discussed previously, the EURESCOM project P901 main contribution is the specification of recommended methodologies and models to be used in investment analysis of telecommunication operator strategies. The specification is
25 based on a survey and assessment of relevant approaches and methodologies for the assessment of the economics of telecommunication operator investment projects.

As discussed above, the combination of Ngi and EURESCOM references **fails to** disclose several elements of independent claim 1. In particular, the combination of Ngi and EURESCOM references **fails to** disclose elements (d), (e),
30 and (f) of independent claim 1.

Arbel at (paragraph [0025]) states: “The present invention enables a novel node architecture that eliminates some of the redundant processing logic of the prior art, thereby reducing the cost, footprint, and power consumption of every node in a network. The present invention divides the deframing and overhead generation tasks
5 into two classes: one in which the tasks are performed concurrently for each input port, and one in which the tasks are performed sequentially for each input port. The latter class permits the use of a single instance of processing logic to perform the corresponding tasks for all of the links. Although sequential processing can take more time than concurrent processing, this might not present a problem as long as the
10 sequential processing can be completed within the appropriate time frame.”

Further, Arbel at (paragraph [0074]) states: “FIG. 10 depicts a block diagram of the salient components of multiport cell processor 910-e-q, where $q \in \{1, 2, K\}$, in accordance with the illustrative embodiment. Multiport cell processor 910-e-q comprises cell processor 1010-e-q and memory 1030-e-q. Multiport cell processor
15 910-e-q receives an input overhead cell via 908-e-q, and possibly one or more data outputs from other multiport cell processors via 920, generates an output overhead cell, and outputs the output overhead cell via 925. Since processing the input overhead cell typically varies depending on the input port from which the input overhead cell is received, prior art systems have employed redundant overhead processing logic for
20 each input port. As discussed above, this approach has the disadvantage of requiring more processing logic at the node, which increases the footprint, cost, and power consumption. In the present invention, in contrast, multiport cell processor 910 comprises a single cell processor 1010, and uses this single cell processor in conjunction with memory 1030 in a novel manner, as described below, to process
25 overhead cells from all of the input ports.”

Hence, Arbel discloses a node architecture that eliminates some of the redundant processing logic of the prior art, thereby reducing the cost, footprint, and power consumption of every node in a network. The focus of Arbel teaching is on the internal node architecture and it is well known in the art that node characteristics or
30 attributes comprise cost, footprint, and power consumption of the node.

The Examiner states that Ngi and EURESCOM, separately or in combination, **do not** disclose costs relating to footprints.

Arbel does disclose costs relating to footprints. However, the combination of Ngi, EURESCOM, and Arbel references **does not** show or suggest every limitation
5 in claims 11-14.

Claims 11-14 are dependent claims and each dependent claim has all the limitations of independent claim 1 and intervening claims 10, 8, 5, 3, and 2

Claims 11-14 add limitations to a base claim, independent claim 1, which is distinct from the prior art.

10 Accordingly, it is not obvious to one of ordinary skill in the art reading Ngi, EURESCOM, and Arbel to produce the limitations of claims 11-14.

Therefore, it is respectfully submitted that the obviousness rejection of the Examiner in view of Ngi and further in view of EURESCOM and further in view Arbel has been traversed.

15 Accordingly, for at least the reason that the combination of references fails to disclose or suggest every limitations in claims 11-14, it is respectfully requested that the rejection under 35 U.S.C. §103 be withdrawn.

20 **Conclusion**

Ngi **fails to disclose** several elements of the claimed invention. In particular, Ngi **fails to disclose** elements (c), (d), (e), and (f) of the claimed invention.

EURESCOM **fails to disclose** several elements of the claimed invention. In particular, EURESCOM **fails to disclose** elements (d), (e), and (f) of the claimed
25 invention.

Arbel disclose costs relating to footprints.

The combination of Ngi, EURESCOM, and Arbel references **does not** show or suggest every limitation in the claimed invention.

The combination of Ngi, EURESCOM, and Arbel **fails to** disclose several elements of the claimed invention. In particular, the combination of references **fails to** disclose:

- (1) means for selecting, engineering, and costing network management processes
5 and service and customer management processes for managing plurality of network architectures having various technologies;
- (2) means for determining a network management processes cost which comprises costs of performing installation, testing and repair, inside and outside maintenance, network engineering and provisioning for each network element in the network
10 architecture, and wherein the costs are determined based on whether the operations of each of the network management processes and sub-processes is performed manually, using mechanized systems (or operations support systems (OSS)) or both based on the Service Provider operating environment;
- (3) means for determining a service and customer management processes cost
15 which comprises costs of performing performance management (PM), fault management (FM), Service activation and provisioning (SAP), network inventory management (NIM), work order management (WOM), and customer relationship management (CRM) for each link in the network architecture, and wherein the costs are determined based on whether the operations of each of the service and customer
20 management processes and sub-processes is performed manually, using mechanized systems (or operations support systems (OSS)) or both based on the Service Provider operating environment;
- (4) means for determining a management processes cost comprises a network management processes cost and a service and customer management processes cost;
25 means for determining OPEX, wherein the OPEX comprises a management processes cost, a leasing cost, and sales, general and administration (SG&A) expenses; means for determining CAPEX, wherein the CAPEX comprises a network architecture cost, taxes, interests and depreciation and amortization (D/A) expenses; and other financial statistics; and

(5) means for validating and calibrating the data and options and the costs for the network architectures, the network management processes, and the service and customer management processes.

Advantageously, the cost for managing and operating the network
5 architecture is integrated with the cost of the network architecture in the total cost of the business solution.

Appreciably, the Service Provider (or the telecommunication company)
would be able to identify the areas for enhancing or reducing the management and
operating cost of the telecommunications network. Reducing the management and
10 operating cost of a telecommunications network is critical to the survival of the
Service Provider (or the telecommunication company).

Claims 1-39 are pending in this application.

Claim 20 and claims 27-30 have been canceled without prejudice.

15 Claims 1-5, 15-19, 21-26, 31-33, and 35-37 have been amended to improve
clarity.

Claim 39 adds an additional feature from paragraphs [0070] to [0077] and
[0086] to [0139] and Figures 2, 5-7, and 8-14 in the specification.

20 Reconsideration of all pending claims is respectfully requested

In view of the above arguments and remarks, this application is now
considered to be in condition for allowance and such action is earnestly solicited.

Respectfully submitted,

25 ***/Omayma E. Moharram/***

Omayma E. Moharram, Ph.D., P.Eng,
RR 1 STN MAIN,
225 Spruce Crescent
30 Carleton Place, Ontario, K7C 3P1
CANADA

Phone: 613- 253-4102